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FILE 'HOME' ENTERED AT 00:32:38 ON 21 DEC 2008

L5 ANSWER 1 OF 21 USPATFULL ON STN  
ACCESSION NUMBER: 2008:239147 USPATFULL  
TITLE: Method for Producing Polymer Powders  
INVENTOR(S): Weiss, Axel, Speyer, GERMANY, FEDERAL REPUBLIC OF  
Bothe, Marc, Limburgerhof, GERMANY, FEDERAL REPUBLIC OF  
Nolte, Rainer, Limburgerhof, GERMANY, FEDERAL REPUBLIC  
OF  
Klausmann, Matthias, Ludwigshafen, GERMANY, FEDERAL

REPUBLIC OF  
 Amrhein, Patrick, Hochheim, GERMANY, FEDERAL REPUBLIC  
 OF  
 Landherr, Kenneth, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF  
 Wildburg, Gerald, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 BASF AKTIENGESELLSCHAFT, LUDWIGSHAFEN, GERMANY, FEDERAL  
 PATENT ASSIGNEE(S): REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20080207837	A1	20080828
APPLICATION INFO.:	US 2006-817290	A1	20060320 (11)
	WO 2006-EP60889		20060320
			20070828 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2005-102005013	20050321
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US	
NUMBER OF CLAIMS:	15	
EXEMPLARY CLAIM:	1	
LINE COUNT:	786	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

AB The present invention relates to the production of a polymer powder with improved powder properties, and to its use as impact modifier for rigid polyvinyl chloride (PVC) applications. The impact modifier is composed of emulsion polymer particles which have a core-shell structure, where the shell is composed of a hard polymer and the core is composed of a soft, crosslinked rubber polymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 2 OF 21 USPATFULL on STN  
 ACCESSION NUMBER: 2007:243918 USPATFULL  
 TITLE: POLYMERIC COMPOSITIONS CONTAINING MODIFIED POLYVINYL  
 ALCOHOLS  
 INVENTOR(S): Bauer, Werner, Burgkirchen, GERMANY, FEDERAL REPUBLIC  
 OF  
 Deitrich, Ulf, Wachenheim, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070213430	A1	20070913
APPLICATION INFO.:	US 2004-595315	A1	20041007 (10)
	WO 2004-EP11213		20041007
			20070219 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2003-103469737	20031009
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BROOKS KUSHMAN P.C., 1000 TOWN CENTER, TWENTY-SECOND FLOOR, SOUTHFIELD, MI, 48075, US	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1-13	

LINE COUNT: 736

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to polymeric compositions containing modified polyvinyl alcohols embodied in the form of the aqueous dispersion thereof or water-redispersible powders based on homo or mixed polymerisates of one or several monomers of a group comprising linear or branched alkylcarboxylic acid vinyl esters containing from 1 to 15 C atoms, methacrylic acid esters and alcohol acrylic acid esters containing from 1 to 15 C atoms, vinyl aromatics, olefins, dienes and vinyl halogenides. The inventive compositions are characterised in that the modified polyvinyl alcohols contained therein exhibit a latent carboxylic acid function and/or comprise phosphorus-containing comonomer units.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 3 OF 21 USPATFULL on SIN

ACCESSION NUMBER: 2007:198226 USPATFULL

TITLE: Use of vinyl chloride-ethylene copolymers for hydrophobing construction substances

INVENTOR(S): Weitzel, Hans-Peter, Reichach, GERMANY, FEDERAL REPUBLIC OF

Lutz, Hermann, Emmerting, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): WACKER POLYMER SYSTEMS GMBH & CO. KG, Burghausen, GERMANY, FEDERAL REPUBLIC OF, 84489 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070173574	A1	20070726
APPLICATION INFO.:	US 2005-569700	A1	20050518 (11)
	WO 2005-EP5414		20050518
			20061128 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2004-10200402661020040601	
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BROOKS KUSHMAN P.C., 1000 TOWN CENTER, TWENTY-SECOND FLOOR, SOUTHFIELD, MI, 48075, US	
NUMBER OF CLAIMS:	18	
EXEMPLARY CLAIM:	1-10	
LINE COUNT:	530	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Copolymers of ethylene and vinyl chloride also containing a protective colloid, optionally in conjunction with a fatty acid compound or precursor thereof or with an organosilicon compound, can be employed to increase the water repellant of hydraulically settable construction materials.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 4 OF 21 USPATFULL on SIN

ACCESSION NUMBER: 2007:191358 USPATFULL

TITLE: Method for producing polymer powders that can be easily redispersed in water

INVENTOR(S): Pietsch, Ines, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Pakusch, Joachim, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Reese, Oliver, Ludwigshafen am Rhein, GERMANY, FEDERAL

PATENT ASSIGNEE(S): REPUBLIC OF  
Sack, Heinrich, Hassloch, GERMANY, FEDERAL REPUBLIC OF  
BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL  
REPUBLIC OF, 67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070167539	A1	20070719
APPLICATION INFO.:	US 2005-589268	A1	20050218 (10)
	WO 2005-EP1675		20050218
			20060814 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2004-10200400973920040225	
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US	
NUMBER OF CLAIMS:	14	
EXEMPLARY CLAIM:	1	
LINE COUNT:	702	
AB	A process for the preparation of a readily water-redispersible polymer powder by spray drying of an aqueous polymer dispersion in the presence of a novel spray drying assistant.	

L5 ANSWER 5 OF 21 USPATFULL on STN

ACCESSION NUMBER: 2007:128760 USPATFULL

TITLE: Process for preparing lattices stabilized by polyvinyl alcohol

INVENTOR(S): Weitzel, Hans-Peter, Reischach, GERMANY, FEDERAL  
REPUBLIC OF

PATENT ASSIGNEE(S): Wacker Chemie AG, Munich, GERMANY, FEDERAL REPUBLIC OF  
(non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070112117	A1	20070517
APPLICATION INFO.:	US 2006-600537	A1	20061116 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2005-10200505490420051117	
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BROOKS KUSHMAN P.C., 1000 TOWN CENTER, TWENTY-SECOND FLOOR, SOUTHFIELD, MI, 48075, US	
NUMBER OF CLAIMS:	19	
EXEMPLARY CLAIM:	1	
LINE COUNT:	627	
	CAS INDEXING IS AVAILABLE FOR THIS PATENT.	
AB	A process for preparing polymer dispersions stabilized by polyvinyl alcohol includes a step of emulsion polymerization. The polymerization occurs such that at least 60% of the total conversion occurs at a temperature from 100° C. to 140° C.	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 6 OF 21 USPATFULL on SIN

ACCESSION NUMBER: 2007:95299 USPATFULL  
 TITLE: Method for the production of polymer powders from aqueous polymer dispersions  
 INVENTOR(S): Amrhein, Patrick, Hochheim, GERMANY, FEDERAL REPUBLIC OF  
 Weiss, Axel, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Voss, Hartwig, Frankenthal, GERMANY, FEDERAL REPUBLIC OF  
 Nolte, Rainer, Limburgerhof, GERMANY, FEDERAL REPUBLIC OF  
 Bothe, Marc, Limburgerhof, GERMANY, FEDERAL REPUBLIC OF  
 Meister, Martin, Neustadt, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF, 67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070083001	A1	20070412
APPLICATION INFO.:	US 2004-578466	A1	20041105 (10)
	WO 2004-EP12515		20041105
			20060505 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2003-10352479	20031107
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1	
LINE COUNT:	731	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Process for preparing polymer powder from an aqueous polymer dispersion with water-soluble compounds, the fraction of such compounds being smaller than that of said aqueous polymer dispersion and being based on the polymer present in the form of polymer particles insoluble in water, which comprises subjecting the aqueous polymer dispersion to membrane filtration in a first step of the process and to spray drying in a subsequent second step of the process.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 7 OF 21 USPATFULL on SIN

ACCESSION NUMBER: 2004:255366 USPATFULL  
 TITLE: Preparation of readily water-redispersible and water-wettable polymer powders  
 INVENTOR(S): Pakusch, Joachim, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Pietsch, Ines, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Denu, Hans-Jurgen, Friedelsheim, GERMANY, FEDERAL REPUBLIC OF  
 Sack, Heinrich, Hassloch, GERMANY, FEDERAL REPUBLIC OF  
 Reck, Bernd, Gruenstadt, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040198896	A1	20041007

APPLICATION INFO.: US 6872773 B2 20050329  
US 2004-815870 A1 20040402 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2003-10315433	20030403
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
LINE COUNT:	517	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB A readily water-redispersible and water-wettable polymer powder is prepared by spray-drying of an aqueous dispersion of polymer particles with admixing of a hydrophilic and of a hydrophobic antiblocking agent.		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 8 OF 21 USPATFULL on SIN  
ACCESSION NUMBER: 2004:127638 USPATFULL  
TITLE: Water-redispersible polymer powder compositions with accelerated-setting action  
INVENTOR(S): Weitzel, Hans-Peter, Reischach, GERMANY, FEDERAL REPUBLIC OF  
PATENT ASSIGNEE(S): Wacker Polymer Systems, GmbH & Co. KG, Burghausen, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040097622	A1	20040520
	US 7288580	B2	20071030
APPLICATION INFO.:	US 2003-684741	A1	20031014 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2002-10253045	20021114
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BROOKS KUSHMAN P.C., 1000 TOWN CENTER, TWENTY-SECOND FLOOR, SOUTHFIELD, MI, 48075	
NUMBER OF CLAIMS:	11	
EXEMPLARY CLAIM:	1	
LINE COUNT:	564	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB Water-redispersible polymer powder compositions with accelerated-setting action based on homo- or copolymers of one or more monomers of vinyl esters of optionally branched C.sub.1-15 alkylcarboxylic acids, (meth)acrylic esters of C.sub.1-15 alcohols, vinylaromatics, olefins, dienes, and vinyl halides, one or more protective colloids, and optionally antiblocking agent(s), contain one or more setting-accelerants NR.sub.3, R.sub.2N--(CH.sub.2).sub.n--NR.sub.2, or one or more singly or doubly NH.sub.2-terminated polyalkylene glycols having a C.sub.1-C.sub.6-alkylene group is/are present, where n=from 1 to 4, and where the radicals R are identical or different, and are hydrogen, a C.sub.1-C.sub.6-alkyl radical, or a C.sub.1-C.sub.6-hydroxyalkyl radical, where at least one radical R is a C.sub.1-C.sub.6-hydroxyalkyl radical, and wherein the		

setting-accelerants may optionally be present in the form of their salts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 9 OF 21 USPATFULL on STN

ACCESSION NUMBER: 2003:188625 USPATFULL  
 TITLE: Multimodal polymer particles and uses thereof  
 INVENTOR(S): Hamilton, Raymond Gerard, Washington Crossing, PA, UNITED STATES  
 Wills, Morris Christopher, Philadelphia, PA, UNITED STATES  
 Petooff, Jennifer Lynn, Yardley, PA, UNITED STATES  
 Adamo, Joseph Robert, Souderton, PA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030130418	A1	20030710
	US 6884844	B2	20050426
APPLICATION INFO.:	US 2002-307754	A1	20021202 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-340470P	20011214 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ROHM AND HAAS COMPANY, PATENT DEPARTMENT, 100 INDEPENDENCE MALL WEST, PHILADELPHIA, PA, 19106-2399	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1384	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A multimodal polymer particle composition containing two or more populations of polymer particles having a total rubbery weight fraction of less than 90 weight percent is provided. Also disclosed is a process for preparing multimodal polymer particle compositions that can be dried to a powder. Multimodal polymer particle dispersions are disclosed for preparing impact modifiers that can be dried to a powder. Also provided are polymeric compositions having a matrix resin component and impact modifiers prepared from multimodal polymer particles.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 10 OF 21 USPATFULL on STN

ACCESSION NUMBER: 2003:181587 USPATFULL  
 TITLE: Processes for preparing multimodal polymer particle compositions  
 INVENTOR(S): Hamilton, Raymond Gerard, Washington Crossing, PA, UNITED STATES  
 Wills, Morris Christopher, Philadelphia, PA, UNITED STATES  
 Moyer, Kirk Harold, Yardley, PA, UNITED STATES  
 Petooff, Jennifer Lynn, Yardley, PA, UNITED STATES  
 Adamo, Joseph Robert, Souderton, PA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030125420	A1	20030703
	US 6989410	B2	20060124
APPLICATION INFO.:	US 2002-307650	A1	20021202 (10)



	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-340566P	20011214 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ROHM AND HAAS COMPANY, PATENT DEPARTMENT, 100 INDEPENDENCE MALL WEST, PHILADELPHIA, PA, 19106-2399	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1391	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A multimodal polymer particle composition containing two or more populations of polymer particles having a total rubbery weight fraction of less than 90 weight percent is provided. Also disclosed is a process for preparing multimodal polymer particle compositions that can be dried to a powder. Multimodal polymer particle dispersions are disclosed for preparing impact modifiers that can be dried to a powder. Also provided are polymeric compositions having a matrix resin component and impact modifiers prepared from multimodal polymer particles.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 11 OF 21 USPATFULL ON STN  
 ACCESSION NUMBER: 2002:141579 USPATFULL  
 TITLE: High rubber impact modifier powders  
 INVENTOR(S): Wills, Morris Christopher, Philadelphia, PA, UNITED STATES  
 Chou, Chuen-Shyong, Ambler, PA, UNITED STATES  
 Casey, Karen, Harlevsille, PA, UNITED STATES  
 Adamo, Joseph Robert, Souderton, PA, UNITED STATES  
 Zeng, Fanwen, Bell Mead, NJ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20020072566	A1	20020613
	US 6639012	B2	20031028
APPLICATION INFO.:	US 2001-981348	A1	20011017 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-243488P	20001025 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ROHM AND HAAS COMPANY, PATENT DEPARTMENT, 100 INDEPENDENCE MALL WEST, PHILADELPHIA, PA, 19106-2399	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1289	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A powdery high rubber impact modifier composition containing two or more populations of polymer particles having a total rubbery weight fraction of greater than 90 weight percent is provided. Aqueous polymer particle dispersions for preparing these high rubber impact modifiers which can be spray dried to a powder are also provided. Also provided are polymeric compositions having a matrix resin component and the powdery high-rubber impact modifiers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 12 OF 21 USPATFULL on STN  
 ACCESSION NUMBER: 2002:141565 USPATFULL  
 TITLE: Processes for preparing impact modifier powders  
 INVENTOR(S): Wills, Morris Christopher, Philadelphia, PA, UNITED STATES  
 Casey, Karen, Harleysville, PA, UNITED STATES  
 Chou, Chuen-Shyong, Amber, PA, UNITED STATES  
 Adamo, Joseph Robert, Souderton, PA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20020072552	A1	20020613
	US 6900254	B2	20050531
APPLICATION INFO.:	US 2001-981425	A1	20011017 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-243513P	20001025 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ROHM AND HAAS COMPANY, PATENT DEPARTMENT, 100 INDEPENDENCE MALL WEST, PHILADELPHIA, PA, 19106-2399	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1311	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes for preparing a powdery high rubber impact modifier containing two or more populations of polymer particles having a total rubbery weight fraction of greater than 90 weight percent is provided. Also provided are various methods of preparing aqueous polymer particle dispersions having two or more populations of polymer particles having a total rubbery weight fraction of greater than 90 weight percent. These dispersions are spray-driable into a powder and are useful for increasing the impact strength of various matrix resins.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 13 OF 21 USPATFULL on STN  
 ACCESSION NUMBER: 1999:24741 USPATFULL  
 TITLE: Preparation of polymer powders which are redispersible in an aqueous medium  
 INVENTOR(S): Pakusch, Joachim, Ludwigshafen, Germany, Federal Republic of  
 Dieing, Reinhold, Bad Durkheim, Germany, Federal Republic of  
 Tropsch, Jurgen, Romerberg, Germany, Federal Republic of  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5874524		19990223
APPLICATION INFO.:	US 1996-731989		19961023 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1995-19540305	19951028
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	

PRIMARY EXAMINER: Yoon, Tae  
 LEGAL REPRESENTATIVE: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.  
 NUMBER OF CLAIMS: 27  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 1229

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Polymer powders which are redispersible in an aqueous medium are prepared by drying an aqueous polymer dispersion whose polymer particles dispersed in the aqueous medium have a positive or a negative electric surface charge, with the addition of a water-soluble polyelectrolyte as a drying assistant, the electric charge of the polyion being opposite to the electric surface charge of the disperse polymer particles.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 14 OF 21 USPATFULL on STN  
 ACCESSION NUMBER: 1998:54974 USPATFULL  
 TITLE: Redispersible, silicon-modified dispersion powder composition, process for its preparation and its use  
 INVENTOR(S): Eck, Herbert, Burghausen, Germany, Federal Republic of  
 Hopf, Heinrich, Burghausen, Germany, Federal Republic of  
 Adler, Klaus, Burghausen, Germany, Federal Republic of  
 Jodlbauer, Franz, Marktl, Germany, Federal Republic of  
 von Au, Guenter, Burghausen, Germany, Federal Republic of  
 PATENT ASSIGNEE(S): Wacker-Chemie GmbH, Munich, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5753733		19980519
	WO 9520626		19950803
APPLICATION INFO.:	US 1996-687507		19960918 (8)
	WO 1995-EP281		19950126
			19960918 PCT 371 date
			19960918 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1994-4402408	19940127
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Smith, Jeffrey T.	
LEGAL REPRESENTATIVE:	Burgess, Ryan & Wayne	
NUMBER OF CLAIMS:	11	
EXEMPLARY CLAIM:	1	
LINE COUNT:	742	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention concerns a dispersion powder composition which is redispersible in water and is made from water-insoluble homopolymers or copolymers of preferably ethylenically unsaturated monomers and one or more organosilicon compounds plus, optionally, other additives such as protective colloids and anti-blocking agents. The composition is obtained by: a) polymerizing one or more monomers in the presence of 0.1 to 30% by weight, relative to the total weight of the monomers, of one or more silicon compounds which are dispersible in water and which have a boiling point at normal pressure of >160° C., selected from the group comprising the silanes, polysilanes, oligosiloxanes, polysiloxanes, carbosilanes, polycarbosilanes,

carbosiloxanes, polycarbosiloxanes and polysilylenedisiloxanes and: b)  
 spray-drying the product thus obtained, either before  
 or after addition of the additives mentioned.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 15 OF 21 USPATFULL on STN  
 ACCESSION NUMBER: 96:12715 USPATFULL  
 TITLE: Production of solid pharmaceutical depot forms  
 Grabowski, Sven, Ludwigshafen, Germany, Federal  
 INVENTOR(S): Republic of  
 Kah-Helbig, Astrid, Neustadt, Germany, Federal Republic  
 of  
 Sanner, Axel, Frankenthal, Germany, Federal Republic of  
 Wendel, Kurt, Ludwigshafen, Germany, Federal Republic  
 of  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, Germany, Federal  
 Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5490990		19960213
APPLICATION INFO.:	US 1993-78824		19930621 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1992-4220782	19920625
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Kulkosky, Peter F.	
LEGAL REPRESENTATIVE:	Oblon, Spivak, McClelland, Maier & Neustadt	
NUMBER OF CLAIMS:	18	
EXEMPLARY CLAIM:	1	
LINE COUNT:	442	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for the production of solid pharmaceutical depot forms by  
 application of a reconstituted aqueous dispersion of a pharmaceutically  
 acceptable binder to a core which contains active substance or by wet  
 granulation of the pharmaceutical active substance with such a binder  
 dispersion or by direct tableting of an active substance with the  
 redispersible binder powder, wherein the binder has been obtained by  
 emulsion polymerization and subsequent spray drying  
 of the resulting aqueous dispersion with a water-soluble  
 pharmaceutically acceptable spraying aid with a glass transition  
 temperature of at least 60° C. and with or without a  
 pharmaceutically acceptable antiblocking agent.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 16 OF 21 USPAT2 on STN  
 ACCESSION NUMBER: 2004:255366 USPAT2  
 TITLE: Preparation of readily water-redispersible and  
 water-wettable polymer powders  
 INVENTOR(S): Pakusch, Joachim, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Pietsch, Ines, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Denu, Hans-Jurgen, Friedelsheim, GERMANY, FEDERAL  
 REPUBLIC OF  
 Sack, Heinrich, Hassloch, GERMANY, FEDERAL REPUBLIC OF  
 Reck, Bernd, Gruenstadt, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL

## REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6872773	B2	20050329
APPLICATION INFO.:	US 2004-815870		20040402 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2003-10315433	20030403
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Reddick, Judy M.	
LEGAL REPRESENTATIVE:	Oblon, Spivak, McClelland, Maier & Neustadt, P.C.	
NUMBER OF CLAIMS:	12	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	526	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A readily water-redispersible and water-wettable polymer powder is prepared by spray-drying of an aqueous dispersion of polymer particles with admixing of a hydrophilic and of a hydrophobic antiblocking agent.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 17 OF 21 USPAT2 on STN  
 ACCESSION NUMBER: 2004:127638 USPAT2  
 TITLE: Water-redispersible polymer powder compositions with accelerated-setting action  
 INVENTOR(S): Weitzel, Hans-Peter, Reischach, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): Wacker Polymer Systems GmbH & Co. KG, Burghausen, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7288580	B2	20071030
APPLICATION INFO.:	US 2003-684741		20031014 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2002-10253045	20021114
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Szekely, Peter	
LEGAL REPRESENTATIVE:	Brooks Kushman P.C.	
NUMBER OF CLAIMS:	35	
EXEMPLARY CLAIM:	1	
LINE COUNT:	846	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Water-redispersible polymer powder compositions with accelerated-setting action based on homo- or copolymers of one or more monomers of vinyl esters of optionally branched C.sub.1-15 alkylcarboxylic acids, (meth)acrylic esters of C.sub.1-15 alcohols, vinylaromatics, olefins, dienes, and vinyl halides, one or more protective colloids, and optionally antiblocking agent(s), contain one or more setting-accelerants NR.sub.3, R.sub.2N--(CH.sub.2).sub.n--NR.sub.2, or one or more singly or doubly NH.sub.2-terminated polyalkylene glycols having a C.sub.1-C.sub.6-alkylene group is/are present, where n=from 1

to 4, and where the radicals R are identical or different, and are hydrogen, a C.sub.1-C.sub.6-alkyl radical, or a C.sub.1-C.sub.6-hydroxyalkyl radical, where at least one radical R is a C.sub.1-C.sub.6-hydroxyalkyl radical, and wherein the setting-accelerants may optionally be present in the form of their salts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 18 OF 21 USPAT2 on STN  
 ACCESSION NUMBER: 2003:188625 USPAT2  
 TITLE: Multimodal polymer particles and uses thereof  
 INVENTOR(S): Hamilton, Raymond Gerard, Washington Crossing, PA,  
 UNITED STATES  
 Wills, Morris Christopher, Philadelphia, PA, UNITED STATES  
 Petooff, Jennifer Lynn, Yardley, PA, UNITED STATES  
 Adamo, Joseph Robert, Souderton, PA, UNITED STATES  
 PATENT ASSIGNEE(S): Rohm and Haas Company, Philadelphia, PA, UNITED STATES  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6884844	B2	20050426
APPLICATION INFO.:	US 2002-307754		20021202 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-340470P	20011214 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Seidleck, James J.	
ASSISTANT EXAMINER:	Asinovsky, Olga	
LEGAL REPRESENTATIVE:	Chirgott, Paul, Bodner, Marcella M.	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	1370	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A multimodal polymer particle composition containing two or more populations of polymer particles having a total rubbery weight fraction of less than 90 weight percent is provided. Also disclosed is a process for preparing multimodal polymer particle compositions that can be dried to a powder. Multimodal polymer particle dispersions are disclosed for preparing impact modifiers that can be dried to a powder. Also provided are polymeric compositions having a matrix resin component and impact modifiers prepared from multimodal polymer particles.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 19 OF 21 USPAT2 on STN  
 ACCESSION NUMBER: 2003:181587 USPAT2  
 TITLE: Processes for preparing multimodal polymer particle compositions  
 INVENTOR(S): Hamilton, Raymond Gerard, Washington Crossing, PA,  
 UNITED STATES  
 Wills, Morris Christopher, Philadelphia, PA, UNITED STATES  
 Moyer, Kirk Harold, Yardley, PA, UNITED STATES  
 Petooff, Jennifer Lynn, Yardley, PA, UNITED STATES

PATENT ASSIGNEE(S): Adamo, Joseph Robert, Souderton, PA, UNITED STATES  
 Rohm and Haas Company, Philadelphia, PA, UNITED STATES  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6989410	B2	20060124
APPLICATION INFO.:	US 2002-307650		20021202 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-340566P	20011214 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Yoon, Tae H.	
LEGAL REPRESENTATIVE:	Bodner, Marcella M., Chirgott, Paul S.	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1381	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A multimodal polymer particle composition containing two or more populations of polymer particles having a total rubbery weight fraction of less than 90 weight percent is provided. Also disclosed is a process for preparing multimodal polymer particle compositions that can be dried to a powder. Multimodal polymer particle dispersions are disclosed for preparing impact modifiers that can be dried to a powder. Also provided are polymeric compositions having a matrix resin component and impact modifiers prepared from multimodal polymer particles.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 20 OF 21 USPAT2 on STN  
 ACCESSION NUMBER: 2002:141579 USPAT2  
 TITLE: High rubber impact modifier powders  
 INVENTOR(S): Wills, Morris Christopher, Philadelphia, PA, United States  
 Chou, Chuen-Shyong, Ambler, PA, United States  
 Casey, Karen, Harleysville, PA, United States  
 Adamo, Joseph Robert, Souderton, PA, United States  
 Zeng, Fanwen, Philadelphia, PA, United States  
 PATENT ASSIGNEE(S): Rohm and Haas Company, Philadelphia, PA, United States  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6639012	B2	20031028
APPLICATION INFO.:	US 2001-981348		20011017 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-243488P	20001025 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Seidleck, James J.	
ASSISTANT EXAMINER:	Asinovsky, Olga	
NUMBER OF CLAIMS:	17	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	1324	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A powdery high rubber impact modifier composition containing two or more populations of polymer particles having a total rubbery weight fraction of greater than 90 weight percent is provided. Aqueous polymer particle dispersions for preparing these high rubber impact modifiers which can be spray dried to a powder are also provided. Also provided are polymeric compositions having a matrix resin component and the powdery high-rubber impact modifiers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 21 OF 21 USPAT2 on STN  
 ACCESSION NUMBER: 2002:141565 USPAT2  
 TITLE: Processes for preparing impact modifier powders  
 INVENTOR(S): Wills, Morris Christopher, Philadelphia, PA, UNITED STATES  
 Casey, Karen, Harleysville, PA, UNITED STATES  
 Chou, Chuen-Shyong, Ambler, PA, UNITED STATES  
 Adamo, Joseph Robert, Souderton, PA, UNITED STATES  
 Zeng, Fanwen, Belle Mead, NJ, UNITED STATES  
 PATENT ASSIGNEE(S): Rohm and Haas Company, Philadelphia, PA, UNITED STATES  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6900254	B2	20050531
APPLICATION INFO.:	US 2001-981425		20011017 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-243513P	20001025 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Cain, Edward J.	
LEGAL REPRESENTATIVE:	Rosedale, Jeffrey H., Bodner, Marcella M.	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	1291	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes for preparing a powdery high rubber impact modifier containing two or more populations of polymer particles having a total rubbery weight fraction of greater than 90 weight percent is provided. Also provided are various methods of preparing aqueous polymer particle dispersions having two or more populations of polymer particles having a total rubbery weight fraction of greater than 90 weight percent. These dispersions are spray-driable into a powder and are useful for increasing the impact strength of various matrix resins.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d 15 20 ibib hit

L5 ANSWER 20 OF 21 USPAT2 on STN  
 ACCESSION NUMBER: 2002:141579 USPAT2  
 TITLE: High rubber impact modifier powders  
 INVENTOR(S): Wills, Morris Christopher, Philadelphia, PA, United States  
 Casey, Karen, Harleysville, PA, United States  
 Chou, Chuen-Shyong, Ambler, PA, United States



PATENT ASSIGNEE(S): Adamo, Joseph Robert, Souderton, PA, United States  
 Zeng, Fanwen, Philadelphia, PA, United States  
 Rohm and Haas Company, Philadelphia, PA, United States  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6639012	B2	20031028
APPLICATION INFO.:	US 2001-981348		20011017 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-243488P	20001025 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Seidleck, James J.	
ASSISTANT EXAMINER:	Asinovsky, Olga	
NUMBER OF CLAIMS:	17	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	1324	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM Spray drying is an economical, safe and desirable means of isolating dispersions of core-shell polymer particles as free-flowing powders. During this process an aqueous dispersion of core-shell polymer particles is atomized in a chamber containing heated air, water is removed, and the core-shell polymer particles are aggregated into dry powder particles. Unfortunately, there are several problems associated with spray drying polymer particle dispersions containing a high rubbery phase content above 90 weight percent. These problems include: (1) sticking of the particles to the chamber walls of the spray dryer; (2) bridging of the particles over conveying lines entrances; and (3) unacceptable powder flow characterized by aggregation, clumping, and flow interruptions.

SUMM (II) spray-drying the polymer particle dispersion.

SUMM In providing powdery impact modifiers of the present invention by spray drying polymer particle dispersions, it is desirable that the viscosity of polymer particle dispersion should be no more than 2000 centipoise, typically no more than 1750 centipoise, more typically no more than 1500 centipoise, and even more typically no more than 1250 centipoise. These viscosities are provided using a Brookfield viscometer with a #3 spindle operating at 30 RPM. Polymer particle dispersions which have viscosities greater than 2000 centipoise can be suitably diluted, such as by addition of an aqueous liquid, to reduce the viscosity to 2000 centipoise or less. As well, surfactants may also be added to these polymer particle dispersions to improve their shear stability. Accordingly, using two polymer particle populations that differ by 50 percent in mean particle size provides a much lower viscosity than a single population of comparable polymer particles. Hence, polymer dispersions of the present invention have lower viscosities than comparable single population particles and are more readily spray drible at higher polymer particle weight fractions.

SUMM In the spray drying process, optional flow aid may be blown into the atomization chamber by a separate gas stream or fed into the atomization chamber at such a rate to give the desired weight

percentage based on total polymer particles and flow aid. The flow aid is typically an inert particulate material having a particle size in the range of from 0.005 to 10 microns. Both organic and inorganic flow aids may be used in the present invention. Many suitable flow aids are commercially available. Organic flow aids typically include hard polymer particles having softening temperature greater than that of the spray drying conditions (e.g., polymethyl methacrylate). It is also envisioned that flours from plant products such as cellulose fiber, wood and nut shells may also be incorporated as flow aids. Suitable inorganic flow aids typically include a variety of compositions, e.g.: glass beads; metals, minerals such as calcium carbonates, alumina trihydrates, micas, magnesium carbonates, magnesium hydroxide; talcs; clays such as alumina silicates; ceramics; precipitated amorphous silica; fumed silica; diatomaceous earth, pigments such as titanium dioxide. Both stearic-acid coated and uncoated calcium carbonate flow aids are typically used. Various particulate compositions known as "anti-blocking agents" and "fillers" are also useful as flow aids. It is desirable that the flow aids are chemically inert and substantially non-reactive with any of the other components commonly found in plastics compositions at process conditions.

DETD

TABLE 2

Additional  
Dispersion Processing SLS added to Compaction-  
Ex. Example Aid, phr Flow Aid, % dispersion free powder?

15 Ex. 4	1.0 [a]	1.90	0.63%	yes
16 Ex. 5	1.0 [a]	1.60	0.63%	no
17 Ex. 6	none	2.79	1%	yes
18 Blend of	none	2.70	0.50%	yes
Examples				
7-12				
19 Blend of	none	3.30	0.50%	yes
Examples				
7-12				
20 Blend of	none	3.20	0.50%	yes
Examples				
7-12				
21 Blend of	0.78 [b]	0.90	0.50%	no
Examples				
7-12				
22	0.78 [b]	2.40	0.50%	yes
23	0.78 [b]	3.60	0.50%	yes
24 Blend of	none	2.50	0.50%	yes
Examples				
13 and 14				

[a] A processing aid dispersion of two-stage polymer particles was prepared according to the procedure described in Example 1 of U.S. Pat. No. 3,833,686 with the following modifications: the composition of stage 1 was 60% MMA, and 40% EA; the composition of stage 2 was MMA; the weight ratio of stage 1:stage 2 was 1:3; the mean particle size was 250 nm; the solids weight fraction of the particle dispersion was 54%. The Mw measured by GPC was 1.2 million g/mol. The Tg of the overall polymer # measured by DSC was 97° C. 1 PHR of this processing aid was blended with 7 PHR of the core-shell polymer, based solids, prior to spray drying.

[b] A processing aid dispersion of two-stage polymer particles was prepared according to the procedure described in U.S. Pat. No. 3,833,686 with the following modifications: the composition of stage 1 was 55% MMA, 35% EA; and 10% BMA; the composition of stage 2 was 88% MMA;  
 # 6% EA and 6% BMA; the weight ratio of stage 1:stage 2 was 1:3; the mean particle size was 170 nm; and the solids weight fraction of the particle dispersion was 48%. The Mw measured by GPC was 3.2 million g/mol. The Tg of the overall polymer measured  
 # by DSC was 90° C. 0.78 PHR of this processing aid was blended with 7 PHR of the core-shell polymer dispersion, based on solids, prior to spray drying.

=> d 15 16 ibib hit

L5 ANSWER 16 OF 21 USPAT2 on STN  
 ACCESSION NUMBER: 2004:255366 USPAT2  
 TITLE: Preparation of readily water-redispersible and water-wettable polymer powders  
 INVENTOR(S): Pakusch, Joachim, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Pietsch, Ines, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Denu, Hans-Jurgen, Friedelsheim, GERMANY, FEDERAL REPUBLIC OF  
 Sack, Heinrich, Hassloch, GERMANY, FEDERAL REPUBLIC OF  
 Reck, Bernd, Gruenstadt, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6872773	B2	20050329
APPLICATION INFO.:	US 2004-815870		20040402 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2003-10315433	20030403
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Reddick, Judy M.	
LEGAL REPRESENTATIVE:	Oblon, Spivak, McClelland, Maier & Neustadt, P.C.	
NUMBER OF CLAIMS:	12	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	526	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB	A readily water-redispersible and water-wettable polymer is prepared by spray-drying of an aqueous dispersion of polymer particles with admixing of a hydrophilic and of a hydrophobic antiblocking agent.	
SUMM	The present invention relates to a process for the preparation of a readily water-redispersible and water-wettable polymer powder by spray-drying of an aqueous dispersion of polymer particles with admixing of a hydrophilic and of a hydrophobic antiblocking agent, wherein the spray-drying of the aqueous polymer particle dispersion is carried out in the presence of a hydrophobic antiblocking agent and the polymer powder obtained is homogeneously mixed with a hydrophilic antiblocking agent in a subsequent step.	

- SUMM The redispersing behavior is an important property for the quality of the polymer powder. The better the redispersing behavior of the polymer powder in water, the more closely the properties of the aqueous polymer dispersion after redispersing approach the properties of the aqueous polymer dispersion prior to the spray-drying step. This means that the redispersing behavior of the polymer powder is a measure of the extent to which the original and the redispersed aqueous polymer dispersions correspond in their properties.
- SUMM While the redispersing behavior of a polymer powder is generally substantially influenced by the spraying assistants usually used in the spray-drying process and therefore familiar to a person skilled in the art, the wetting behavior is determined by the surface characteristics of the polymer powder particle. This is frequently determined by the antiblocking agent adhering to the surface of the polymer powder particle.
- SUMM DE-A-1719317 discloses, as antiblocking agents, aluminum silicates, kieselguhr, clays, calcium sulfate, cements or diatomaceous earth, which are mixed with the polymer powder after the spray-drying process, the abovementioned disadvantages being applicable here too.
- SUMM EP-A 1000113 describes a process for the preparation of redispersible and wettable polymer powders, in which a hydrophilic and a hydrophobic antiblocking agent are to be used simultaneously for the spray-drying. This process is said not to have the abovementioned disadvantages. A disadvantage of this process, however, is that large amounts of antiblocking agents are added during the spray-drying process, which, owing to the finely divided nature of the antiblocking agents used, frequently leads to deposits or to blockages of the waste air pipes or separation cyclones or waste air filters, with the result that the spray-drying process is susceptible to faults.
- SUMM It is an object of the present invention to provide an improved process for the preparation of polymer powders having good redispersing and wetting behavior in water by spray-drying of aqueous polymer dispersions.
- DETD The antiblocking agents are as a rule powders of inorganic solids, having a mean particle size of from 0.1 to 20  $\mu\text{m}$ , frequently from 1 to 10  $\mu\text{m}$  (based on ASTM C 690-1992, Multisizer/100  $\mu\text{m}$  capillary). It is advantageous if the inorganic substances have a solubility of  $\leq 50$  g/l,  $\leq 10$  g/l or  $\leq 5$  g/l in water at 20° C.
- DETD Depending on their surface characteristics, the antiblocking agents may have hydrophobic (water-repellent) or hydrophilic (water-attracting) properties. A measure of the hydrophobic or hydrophilic character of a substance is the contact angle of a drop of demineralized water on a compressed body of the corresponding antiblocking agent. The greater the contact angle of the water drop on the surface of the compressed body, the greater the hydrophobic character or the less the hydrophilic character, and vice versa. In order to decide whether one antiblocking agent is more hydrophobic or hydrophilic than another, standard sieve fractions (=the same particle sizes or particle size distributions) are prepared from the two antiblocking agents. Compressed bodies having horizontal

surfaces are produced from these sieve fractions of the same sizes or size distributions under identical conditions (amount, surface area, pressure, temperature). A water drop is applied by means of a pipette to each compressed body and the contact angle between the surface of the compressed body and the water drop is determined immediately thereafter. The greater the contact angle between the surface of the compressed body and the water drop, the greater the hydrophobic character or the less the hydrophilic character.

- DETD Optimum results are obtained if aqueous polymer dispersions having a weight average particle size of from 100 to 1000 nm, often from 100 to 500 nm, are used and the ratio of the mean polymer powder diameter (after the spray-drying frequently from 30 to 150  $\mu\text{m}$ , often from 50 to 100  $\mu\text{m}$ ; determined on the basis of ASTM C 690-1992, Multisizer/100  $\mu\text{m}$  capillary) to the mean particle diameter of the hydrophobic and hydrophilic antiblocking agents is from 2 to 50:1 or from 5 to 30:1.
- DETD The spray-drying known to a person skilled in the art is effected in a drying tower with the aid of atomizer disks or airless high-pressure nozzles or binary nozzles in the top of the tower. The drying of the aqueous polymer dispersion is carried out using a hot gas, for example nitrogen or air, which is blown into the tower from below or above, but preferably from above cocurrently with the material to be dried. The temperature of the drying gas is from about 90 to 180° C., preferably from 110 to 160° C., at the tower entrance and from about 50 to 90° C., preferably from 60 to 80° C., at the tower exit. The hydrophobic antiblocking agent is introduced into the drying tower simultaneously with the aqueous polymer dispersion but spatially separately therefrom. The addition is effected, for example, via a binary nozzle or conveyor screw, as a mixture with the drying gas or via a separate orifice.
- DETD The hydrophobic antiblocking agent used was Sipernat® D 17 from Degussa. This is a precipitated silica having a specific surface area (based on ISO 5794-1, Annex D) of 100 m<sup>2</sup>/g, a mean particle size (based on ASTM C 690-1992) of 7  $\mu\text{m}$  and a tapped density (based on ISO 787-11) of 150 g/l, the surface of which had been rendered hydrophobic by treatment with special chlorosilanes.
- DETD Hydrophilic antiblocking agent 1 used was an untreated precipitated silica having a specific surface area (based on ISO 5794-1, Annex D) of 190 m<sup>2</sup>/g, a mean particle size (based on ASTM C 690-1992) of 7  $\mu\text{m}$  and a tapped density (based on ISO 787-11) of 90 g/l (Sipernat® 22 S from Degussa).
- DETD Hydrophilic antiblocking agent 2 used was a finely divided intergrowth of white talc with pure dolomite, having a specific surface area (Blaine 10) of 15 900, a mean particle size (based on ASTM C 690-1992) of 3.5  $\mu\text{m}$  and a tapped density (based on ISO 787-11) of 900 g/l (Special Extender Naintsche SE Super from Luzenac Naintsch).
- DETD Simultaneously with the spray feed, 0.2% by weight, based on the solids content of the spray feed, of the hydrophobic antiblocking agent was metered continuously into the top of the spray-drying tower via a weight-controlled twin-screw conveyor.
- DETD The dry dispersion powder discharged from the spray-drying tower was mixed with 10% by weight, based on the amount of powder, of the hydrophilic antiblocking agent 1 or 2 in a glass vessel. The glass container was filled to 50% of its volume. The powder mixture was then homogeneously mixed by means of a tumble mixer for 15 minutes.
- DETD The spray-drying was carried out according to the novel example, except that the total amount of the hydrophilic

antiblocking agent 1 was also metered into the drying tower simultaneously with the hydrophobic antiblocking agent.  
 CLM What is claimed is:  
 1. A process for the preparation of a readily water-redispersible and water-wettable polymer powder, comprising: spray-drying an aqueous dispersion of polymer particles in the presence of a hydrophobic antiblocking agent, thereby preparing a dried polymer powder; and homogeneously mixing a hydrophilic antiblocking agent with the dried polymer powder product obtained to prepare said readily water-redispersible and water-wettable polymer powder.

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
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FULL ESTIMATED COST	103.15	103.36

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.30	103.66

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=> d 15 13 ibib hit

L5 ANSWER 13 OF 21 USPATFULL on STN  
 ACCESSION NUMBER: 1999:24741 USPATFULL  
 TITLE: Preparation of polymer powders which are redispersible in an aqueous medium  
 INVENTOR(S): Pakusch, Joachim, Ludwigshafen, Germany, Federal Republic of  
 Dieing, Reinhold, Bad Durkheim, Germany, Federal Republic of  
 Tropsch, Jurgen, Romerberg, Germany, Federal Republic of

PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5874524		19990223
APPLICATION INFO.:	US 1996-731989		19961023 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1995-19540305	19951028
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Yoon, Tae	
LEGAL REPRESENTATIVE:	Oblon, Spivak, McClelland, Maier & Neustadt, P.C.	
NUMBER OF CLAIMS:	27	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1229	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM Polymers which are redispersible on addition of water are obtainable in principle by drying the aqueous polymer dispersions, whereupon they are usually obtained in powder form. Examples of such drying processing are freeze-drying and spray-drying. The latter method, in which the polymer dispersion is sprayed and dewatered in a warm air stream, is particularly advantageous for producing large amounts of powder. The drying air and the spray dispersion are preferably fed cocurrent through the dryer (cf. for example EP-A 262 326 or EP-A 407 889).

SUMM According to TIZ-Fachberichte 109 No. 9 (1985), 698 et seq., the drying assistants used to date are water-soluble substances which, during drying, form a matrix in which the water-insoluble primary polymer particles surrounded by dispersant are embedded. The matrix surrounding and protecting the primary polymer particles counteracts irreversible secondary particle formation. In general, the result is reversible formation of secondary particles (agglomerates having a size of, typically, from 50 to 250  $\mu\text{m}$ ) which comprise a large number of primary polymer particles separated from one another by the drying assistant matrix. On redispersing with water, the matrix dissolves again and the original primary polymer particles surrounded by dispersant are essentially obtained again. In many cases, finely divided antiblocking agents, such as finely divided quartz powder, are also added to the reversibly formed secondary particles and act as spacers between the redispersible agglomerates and, for example, counteract their caking during storage under the pressure of their own weight.

SUMM EP-A 467 103 relates to the preparation of polymer powders which are redispersible in an aqueous medium, by spray-drying of anionically stabilized aqueous polymer dispersions after the addition of a copolymer of from 50 to 80 mol % of an olefinically unsaturated mono- or dicarboxylic acid and from 20 to 50 mol % of a C.sub.3 -C.sub.12 -alkene and/or styrene as a drying assistant.

SUMM EP-A 629 650 recommends the use of polymers containing olefinically unsaturated sulfonic acids as polymerized units, as spray assistants in spray-drying of anionically stabilized aqueous polymer dispersions.

SUMM JP-A 7/53728 relates to a process for spray-drying of ionically stabilized aqueous polymer dispersions after an aqueous dispersion of water-insoluble finely divided inorganic particles which have a surface charge opposite the surface charge of the disperse polymer particles has been added as the drying assistant. Said particles are electrostatically adsorbed onto the surface of the disperse polymer particles and, during the drying of the aqueous polymer dispersion, thus form a protective layer which is both described as promoting the redispersibility and has primarily an antiblocking action. While the antiblocking action is demonstrated by examples, this does not apply to the redispersibility. The disadvantage of the procedure of JP-A 7/93728 is that the diameter of the finely divided inorganic particles must bear a certain relationship with the diameter of the polymer particles. This presents problems, particularly in the case of very finely divided aqueous polymer dispersions to be dried and in the case of aqueous polymer dispersions having a very broad diameter distribution.

SUMM EP-A 262 326 relates to a specific spray-drying process for aqueous polymer dispersions which attempts to manage without the presence of drying assistants. However, this procedure too is not completely satisfactory with respect to the redispersibility of the resulting polymer powder.

DETD As a rule, the novel drying is carried out by spray-drying the aqueous polymer dispersion at an inlet temperature T.sub.I of the warm air stream of from 100° to 200° C., preferably from 120° to 160° C., and an outlet temperature T.sub.o of the warm air stream of from 30° to 90° C., preferably from 50° to 70° C. Spraying of the aqueous polymer dispersion in the warm air stream can be effected, for example, by means of one-material or multimaterial nozzles or by means of a rotating disk. Deposition of the polymer powders is usually effected with the use of cyclones or filter separators. The sprayed aqueous polymer dispersion and the warm air stream are preferably fed in parallel.

DETD IV. Spray-drying of the aqueous polymer dispersions DA to DK after the addition of aqueous polyelectrolyte solutions PI to PIX and comparative experiment

DETD The spray-drying of the aqueous mixtures was carried out in a Minor laboratory dryer from GEA Wiegand GmbH (Niro Business Unit), Germany, with two-material nozzles (diameter of the nozzle from 0.8 to 2 mm) or disk atomization at a tower inlet temperature of 130° C. and a tower outlet temperature of 60° C. (rate: about 2 kg of spray feed/hour). As an antiblocking agent, 2.5% by weight (based on solid polymer mixture) of a finely divided silica (average maximum particle diameter: 25 µm) were metered into the drying chamber simultaneously with the spray feed.

=> d his

(FILE 'HOME' ENTERED AT 00:32:38 ON 21 DEC 2008)  
SET ABBR ON PERM  
SET PLURALS ON PERM

FILE 'USPATFULL, USPATOLD, USPAT2, CAPLUS, JAPIO' ENTERED AT 00:33:08 ON 21 DEC 2008

L1 1497 S (SPRAY(1A) DRYING) (8A) ((POLY?(3A) DISPERSION) OR LATEX OR LATIC  
L2 107 S (SPRAY(1A) DRY?) (S) (ANTI(1W) BLOCK? OR ANTIBLOCK?)



S/N 10/578,466

L3 49 S L1 AND L2  
L4 1247 S (ANTI(1W)BLOCK? OR ANTIBLOCK?) (S) (PARTICLE#(4A)SIZE#)  
L5 21 S L3 AND L4

FILE 'STNGUIDE' ENTERED AT 00:42:15 ON 21 DEC 2008

FILE 'USPATFULL, USPATOLD, USPAT2, CAPLUS, JAPIO' ENTERED AT 00:45:23 ON  
21 DEC 2008

=> s spray(1a)drying and (ultrafiltrat? or membrane(1a)filtrat? or microfiltrat? or  
crossflow(1a)filtrat? or crossflowfiltrat?)

L6 3414 SPRAY(1A) DRYING AND (ULTRAFILTRAT? OR MEMBRANE(1A) FILTRAT? OR  
MICROFILTRAT? OR CROSSFLOW(1A) FILTRAT? OR CROSSFLOWFILTRAT?)

=> s powder#(s)((poly?(3a)dispersion) or latex or lattice#))  
UNMATCHED RIGHT PARENTHESIS 'LATTICE#))'

The number of right parentheses in a query must be equal to the  
number of left parentheses.

=> s powder#(s)((poly?(3a)dispersion) or latex or lattice#)  
L7 20198 POWDER#(S)((POLY?(3A) DISPERSION) OR LATEX OR LATTICE#)

=> s l6 and l7  
L8 65 L6 AND L7

=> s l8 and polymer###(3a)(powder# or partic?)  
L9 50 L8 AND POLYMER###(3A)(POWDER# OR PARTIC?)

=> d l9 1-50 ibib abs

L9 ANSWER 1 OF 50 USPATFULL on STN

ACCESSION NUMBER: 2008:334652 USPATFULL  
TITLE: Use of Copolymers as Solubilizers For Slightly  
Water-Soluble Compounds  
INVENTOR(S): Bouillo, Nathalie, Baden-Baden, GERMANY, FEDERAL  
REPUBLIC OF  
Pierobon, Marianna, Ludwigshafen, GERMANY, FEDERAL  
REPUBLIC OF  
Widmaier, Ralf, Mannheim, GERMANY, FEDERAL REPUBLIC OF  
Dobrawa, Rainer, Mannheim, GERMANY, FEDERAL REPUBLIC OF  
Meyer-Bohm, Kathrin, Feucht, GERMANY, FEDERAL REPUBLIC  
OF  
Lange, Ronald Frans-Maria, Ludwigshafen, GERMANY,  
FEDERAL REPUBLIC OF  
PATENT ASSIGNEE(S): BASF SE, LUDWIGSHAFEN, GERMANY, FEDERAL REPUBLIC OF  
(non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20080293828	A1	20081127
APPLICATION INFO.:	US 2006-92676	A1	20061025 (12)
	WO 2006-EP67747		20061025
			20080505 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2005-10200505306620051104	
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	CONNOLLY BOVE LODGE & HUTZ LLP, 1875 EYE STREET, N.W.,	

SUITE 1100, WASHINGTON, DC, 20006, US

NUMBER OF CLAIMS: 24  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 880

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The use of copolymers obtained by free-radical polymerization of a mixture of

- i) 30 to 80% by weight of N-vinylactam,
- ii) 10 to 50% by weight of vinyl acetate, and
- iii) 10 to 50% by weight of a polyether, with the proviso that the total of components i), ii) and iii) equals 100% by weight, as solubilizers for slightly water-soluble substances.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 2 OF 50 USPATFULL on SIN

ACCESSION NUMBER: 2008:237470 USPATFULL

TITLE: Copolymers for Cosmetic Agents, Produced in the Presence of Polyfunctional Chain Transfer Agents

INVENTOR(S): Winter, Gabi, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF  
 Chrisstoffels, Lysander, Limburgerhof, GERMANY, FEDERAL REPUBLIC OF  
 Wood, Claudia, Weinheim, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF AKTIENGESELLSCHAFT, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20080206153	A1	20080828
APPLICATION INFO.:	US 2006-814448	A1	20060120 (11)
	WO 2006-EP516		20060120
			20070720 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2005-10200500301020050121	
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US	
NUMBER OF CLAIMS:	21	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1967	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to cosmetic and pharmaceutical compositions which comprise a copolymer with anionogenic and/or anionic groups which is obtainable by free-radical polymerization of a monomer mixture in the presence of a polyfunctional regulator with at least three functional regulating groups. The invention further relates to a method of producing such a copolymer and to the copolymers obtainable by this method.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 3 OF 50 USPATFULL on SIN

ACCESSION NUMBER: 2008:117439 USPATFULL

TITLE: Modified-release microparticles based on amphiphilic copolymer and on active principles(s) and

pharmaceutical formulations comprising them  
 INVENTOR(S): Constancis, Alain, Lyon, FRANCE  
 Chan, You-Ping, Lyon, FRANCE  
 PATENT ASSIGNEE(S): Flamel Technologies, Inc., Venissieux Cedex, FRANCE  
 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20080102128	A1	20080501
APPLICATION INFO.:	US 2007-878947	A1	20070727 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2006-833778P	20060728 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	PATTON BOGGS LLP, 8484 WESTPARK DRIVE, SUITE 900, MCLEAN, VA, 22102, US	

NUMBER OF CLAIMS: 41  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 2227

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel microparticles formed of amphiphilic polyamino acids which transport active principle(s), AP(s), in particular protein and peptide active principle(s), and to novel modified-release pharmaceutical formulations comprising said AP microparticles. The aim of the invention is to develop novel microparticles, charged with AP, obtained by aggregation of nanoparticles of amphiphilic polyamino acids and having improved properties, in particular in the dry solid form, with regard to their ability to be dispersed and, concerning the reconstituted suspension, its stability and its ability to be easily handled and injected. The invention relates firstly to microparticles of amphiphilic polyamino acid (PO) comprising at least one AP (associated noncovalently) which spontaneously form a colloidal suspension of nanoparticles in water, at pH 7.0, under isotonic conditions; which microparticles a. are obtained by atomization of a solution or colloidal suspension of PO comprising at least one AP, b. have a size of between 0.5 and 100 microns, c. and are dispersible in colloidal suspension. The invention also relates to the process for the preparation of these microparticles, to a liquid formulation comprising a suspension of these PO/AP microparticles, to a reconstitution process and kit for this formulation and to a dry form of this formulation.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 4 OF 50 USPATFULL on SIN  
 ACCESSION NUMBER: 2007:308464 USPATFULL  
 TITLE: Enzyme Formulations  
 INVENTOR(S): Jensen, Jesper Feldthusen, Mainz, GERMANY, FEDERAL  
 REPUBLIC OF  
 Lohscheidt, Markus, Heidelberg, GERMANY, FEDERAL  
 REPUBLIC OF  
 Habich, Andreas, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF, D-67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070269555	A1	20071122

APPLICATION INFO.: US 2005-791669 A1 20051126 (11)  
 WO 2005-EP12663 20051126  
 20070525 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2004-28253	20041129
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US	
NUMBER OF CLAIMS:	17	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1339	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB	The present invention concerns stabilized solid or liquid enzyme formulation comprising at least one enzyme and at least one single-cell protein.	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 5 OF 50 USPATFULL on SIN  
 ACCESSION NUMBER: 2007:260333 USPATFULL  
 TITLE: Method for Production of Polymer-Encapsulated Pigments  
 INVENTOR(S): Ganschow, Matthias, Wiesbaden, GERMANY, FEDERAL  
 REPUBLIC OF  
 Metz, Hans Joachim, Darmstadt, GERMANY, FEDERAL  
 REPUBLIC OF  
 Rohr, Ulrike, Mannheim, GERMANY, FEDERAL REPUBLIC OF  
 Schweikart, Karl-Heinz, Eschborn, GERMANY, FEDERAL  
 REPUBLIC OF  
 Landfester, Katharina, Ulm, GERMANY, FEDERAL REPUBLIC  
 OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070227401	A1	20071004
APPLICATION INFO.:	US 2005-587879	A1	20050421 (11)
	WO 2005-EP4258		20050421
			20061027 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2004-10200402072620040428	
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	CLARIANT CORPORATION, INTELLECTUAL PROPERTY DEPARTMENT, 4000 MONROE ROAD, CHARLOTTE, NC, 28205, US	
NUMBER OF CLAIMS:	21	
EXEMPLARY CLAIM:	1	
LINE COUNT:	792	
AB	The invention relates to a method for production of an aqueous dispersion of polymer-encapsulated pigments characterized in that (a) an aqueous pigment dispersion, containing at least one organic pigment (P) at least one surfactant (T), and water is prepared, (b) a monomer miniemulsion stabilized by a hydrophobic organic compound with a water solubility at 20° C. of not more than 5+10.sup.-5 g/l, is prepared from a polymerizable monomer (M) and at least one surfactant (T), in water, (c) a monomer pigment emulsion is prepared, whereby the aqueous pigment dispersion from (a) and the monomer miniemulsion from	

(b) are mixed and homogenized, and (d) the pigment-containing monomer miniemulsion from (c) is polymerized in the presence of a polymerization initiator and/or by heat, whereupon an encapsulation of the pigment with the polymer thus formed occurs.

L9 ANSWER 6 OF 50 USPATFULL on SIN

ACCESSION NUMBER: 2007:230961 USPATFULL  
 TITLE: Stabilized Phosphatase Formulations  
 INVENTOR(S): Habich, Andreas, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Braun, Jorg, Essingen, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF, D-67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070202232	A1	20070830
APPLICATION INFO.:	US 2005-586914	A1	20050128 (10)
	WO 2005-EP827		20050128
			20060725 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2004-2056	20040130
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US	
NUMBER OF CLAIMS:	40	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1455	

AB The invention relates to a stabilized solid or liquid enzyme formulation comprising at least one phosphatase and at least one stabilizing agent selected from the group consisting of agar, algin, carrageenan, furcelleran, ghatti gum, tragacanth gum, gum karia, guaran, locust bean gum (=carob bean gum), tamarind seed gum, arabinogalactan, xanthan (gum), at least one animal protein and mixtures thereof, with the proviso that if gelatine is used in granules as solid formulations as the only stabilizing agent, the granules are subsequently coated. The invention also relates to processes for producing these formulations, especially to solid formulations (e.g. granules) and their use in animal and/or human nutrition.

L9 ANSWER 7 OF 50 USPATFULL on SIN

ACCESSION NUMBER: 2007:225621 USPATFULL  
 TITLE: Method for Producing Aqueous Polyvinylactam  
 Dispersions  
 INVENTOR(S): Chrisstoffels, Lysander, Limburgerhof, GERMANY, FEDERAL  
 REPUBLIC OF  
 PATENT ASSIGNEE(S): Basf Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF, 67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070197721	A1	20070823
APPLICATION INFO.:	US 2005-591796	A1	20050414 (10)
	WO 2005-EP3921		20050414
			20060906 PCT 371 date
DOCUMENT TYPE:	Utility		

FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940  
 DUKE STREET, ALEXANDRIA, VA, 22314, US  
 NUMBER OF CLAIMS: 16  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 895  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB Process for preparing water-in-water dispersions of polyvinylactams  
 having a K value of  $\geq 30$  and  $\leq 110$  by free-radically  
 initiated polymerization.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 8 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 2007:176621 USPATFULL  
 TITLE: Method for producing a water-in-water polyvinyl lactam  
 dispersion with a k value of = 120  
 INVENTOR(S): Chrisstoffels, Lysander, Limburgerhof, GERMANY, FEDERAL  
 REPUBLIC OF  
 Widmaier, Ralf, Mannheim, GERMANY, FEDERAL REPUBLIC OF  
 Castro, Ivette Garcia, Ludwigshafen Gartenstadt,  
 GERMANY, FEDERAL REPUBLIC OF  
 Wegmann, Ludger, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF, 67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070154438	A1	20070705
APPLICATION INFO.:	US 2005-591654	A1	20050414 (10)
	WO 2005-EP3915		20050414
			20060905 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2004-10200401917920040416	
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US	
NUMBER OF CLAIMS:	12	
EXEMPLARY CLAIM:	1	
LINE COUNT:	690	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB	Method for producing water-in-water polyvinyl lactam dispersions with a K value of =120 by radical polymerisation.	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 9 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 2007:154162 USPATFULL  
 TITLE: Stabilized enzyme formulations  
 INVENTOR(S): Habich, Andreas, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Braun, Jorg, Essingen, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF, D-67056 (non-U.S. corporation)

NUMBER	KIND	DATE
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PATENT INFORMATION: US 20070134375 A1 20070614  
 APPLICATION INFO.: US 2005-587161 A1 20050128 (10)  
 WO 2005-EP826 20050128  
 20060725 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2004-2050	20040130
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US	
NUMBER OF CLAIMS:	34	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1633	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a stabilized solid or liquid enzyme formulation comprising at least one enzyme and at least one stabilizing agent selected from the group consisting of gummi arabicum, at least one plant protein and mixtures thereof. The invention also relates to processes for producing these formulations, especially to solid formulations (e.g. granules) and their use in animal and/or human nutrition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 10 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 2007:95299 USPATFULL  
 TITLE: Method for the production of polymer  
 powders from aqueous polymer  
 dispersions  
 INVENTOR(S): Amrhein, Patrick, Hochheim, GERMANY, FEDERAL REPUBLIC  
 OF  
 Weiss, Axel, Speyer, GERMANY, FEDERAL REPUBLIC OF  
 Voss, Hartwig, Frankenthal, GERMANY, FEDERAL REPUBLIC  
 OF  
 Nolte, Rainer, Limburgerhof, GERMANY, FEDERAL REPUBLIC  
 OF  
 Bothe, Marc, Limburgerhof, GERMANY, FEDERAL REPUBLIC OF  
 Meister, Martin, Neustadt, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF, 67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070083001	A1	20070412
APPLICATION INFO.:	US 2004-578466	A1	20041105 (10)
	WO 2004-EP12515		20041105 20060505 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2003-10352479	20031107
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1	
LINE COUNT:	731	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Process for preparing polymer powder from an aqueous polymer dispersion with water-soluble compounds, the fraction of such compounds being smaller than that of said aqueous polymer dispersion and being based on the polymer present in the form of polymer particles insoluble in water, which comprises subjecting the aqueous polymer dispersion to membrane filtration in a first step of the process and to spray drying in a subsequent second step of the process.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 11 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 2007:24485 USPATFULL  
 TITLE: Method of preparing pigment compositions  
 INVENTOR(S): Palumbo, Paul S., West Newton, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070021530	A1	20070125
APPLICATION INFO.:	US 2006-491339	A1	20060721 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2005-702079P	20050722 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Cabot Corporation, 157 Concord Road, Billerica, MA, 01821, US	
NUMBER OF CLAIMS:	34	
EXEMPLARY CLAIM:	1	
LINE COUNT:	818	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method of preparing a pigment composition comprising the steps of combining a polymer and a pigment to form a mixture and heating the mixture to a temperature of between about 70° C. and 250° C. to form the pigment composition. The method may further comprise the step of dispersing the pigment composition in an aqueous medium to form an aqueous pigment dispersion. The pigment compositions and aqueous pigment compositions can be used in an inkjet ink composition, which is also disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 12 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 2006:181398 USPATFULL  
 TITLE: Aqueous polymer dispersion and use thereof in cosmetics  
 INVENTOR(S): Christoffels, Lysander, UNITED STATES  
 PATENT ASSIGNEE(S): Basf Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF, D-67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20060153793	A1	20060713
APPLICATION INFO.:	US 2004-564485	A1	20040713 (10)
	WO 2004-EP7741		20040713
			20060113 PCT 371 date

NUMBER	DATE
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PRIORITY INFORMATION: DE 2003-10331865 20030714  
DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: CONNOLLY BOVE LODGE & HUTZ LLP, SUITE 800, 1990 M  
STREET NW, WASHINGTON, DC, 20036-3425, US

NUMBER OF CLAIMS: 24  
EXEMPLARY CLAIM: 1  
LINE COUNT: 2982

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to an aqueous polymer dispersion which is obtainable by free-radical polymerization of a monomer mixture which comprises at least one amide-group-containing compound, at least one crosslinker and at least one monomer with at least one cationogenic and/or cationic group. The invention further relates to the polymers obtainable by drying such a polymer dispersion, and to cosmetic or pharmaceutical compositions which comprise such a polymer dispersion or such a polymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 13 OF 50 USPATFULL on STN  
ACCESSION NUMBER: 2006:144571 USPATFULL  
TITLE: Detergent or cleaning agent  
INVENTOR(S): Lambotte, Alexander, Duesseldorf, GERMANY, FEDERAL  
REPUBLIC OF  
Pegelow, Ulrich, Duesseldorf, GERMANY, FEDERAL REPUBLIC  
OF  
Zipfel, Johannes, Hilden, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20060122089	A1	20060608
APPLICATION INFO.:	US 2005-235980	A1	20050926 (11)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2004-EP2721, filed on 17 Mar 2004, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2003-10313457	20030325
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	DANN DOREFMAN HERRELL AND SKILLMAN, A PROFESSIONAL CORPORATION, 1601 MARKET STREET, SUITE 2400, PHILADELPHIA, PA, 19103-2307, US	

NUMBER OF CLAIMS: 16  
EXEMPLARY CLAIM: 1  
LINE COUNT: 4223

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A detergent or cleaning agent comprising a dispersion of solid particles in a dispersion agent wherein the dispersion is comprised of, based on the total weight of the dispersion (a) from 10 to 65 wt % dispersing agent and (b) from 30 to 90 wt % of dispersed materials, wherein the density is greater than 1.040 g/cm<sup>3</sup>. This composition can be easily formed into tablets.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 14 OF 50 USPATFULL on STN  
ACCESSION NUMBER: 2006:137730 USPATFULL  
TITLE: Detergent or cleaning agent

INVENTOR(S): Lambotte, Alexander, Duesseldorf, GERMANY, FEDERAL  
 REPUBLIC OF  
 Pegelow, Ulrich, Duesseldorf, GERMANY, FEDERAL REPUBLIC  
 OF  
 Jekel, Maren, Willich, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20060116309	A1	20060601
APPLICATION INFO.:	US 2005-236389	A1	20050926 (11)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2004-EP2722, filed on 17 Mar 2004, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2003-10313458	20030325
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	DANN DORFMAN HERRELL AND SKILLMAN, A PROFESSIONAL CORPORATION, 1601 MARKET STREET, SUITE 2400, PHILADELPHIA, PA, 19103-2307, US	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
LINE COUNT:	4303	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Detergents or cleaning agents in the form of a combined product comprising--a first active detergent preparation in the form of a dispersion of solid particles in a dispersing agent, said preparation containing i) 10 to 90 percent by weight of dispersing agent, and ii) 10 to 90 percent by weight of dispersed substances, the percentages being in relation to the total weight of the dispersion, --and at least one additional active detergent preparation which dissolves faster in water at 40° C. than the first active detergent preparation. The inventive detergents or cleaning agents are characterized by improved cleaning power.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 15 OF 50 USPATFULL ON STN  
 ACCESSION NUMBER: 2006:111687 USPATFULL  
 TITLE: Detergent or cleaning agent  
 INVENTOR(S): Jekel, Maren, Willich, GERMANY, FEDERAL REPUBLIC OF  
 Lambotte, Alexander, Duesseldorf, GERMANY, FEDERAL  
 REPUBLIC OF  
 Pegelow, Ulrich, Duesseldorf, GERMANY, FEDERAL REPUBLIC  
 OF  
 Zipfel, Johannes, Hilden, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20060094634	A1	20060504
APPLICATION INFO.:	US 2005-236402	A1	20050926 (11)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2004-EP2716, filed on 17 Mar 2004, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2003-10313455	20030325
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	

LEGAL REPRESENTATIVE: Dann, Dorfman, Herrell and Skillman, Suite 2400, 1601 Market Street, Philadelphia, PA, 19103--230, US

NUMBER OF CLAIMS: 17

EXEMPLARY CLAIM: 1

LINE COUNT: 4481

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A detergent or cleaning agent comprising a dispersion of solid particles in a dispersion agent wherein the dispersion is comprised of, based on the total weight of the dispersion (a) from 10 to 65 wt % dispersing agent and (b) from 30 to 90 wt % of dispersed materials, wherein the dispersed materials are comprised of from 0.1 to 50 wt % of an anionic and/or cationic and/or amphoteric polymer based on the total weight of the dispersed materials. This composition can be easily formed into tablets.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 16 OF 50 USPATFULL on STN

ACCESSION NUMBER: 2006:27548 USPATFULL

TITLE: Composite materials for controlled release of water soluble products

INVENTOR(S): Ying, Jackie Y., Winchester, MA, UNITED STATES

Yong, Tseh-Hwan, Somerville, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20060024377	A1	20060202
	US 7211275	B2	20070501
APPLICATION INFO.:	US 2005-34217	A1	20050113 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2004-536710P	20040116 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	PEARL COHEN ZEDEK, LLP, 10 ROCKEFELLER PLAZA, SUITE 1001, NEW YORK, NY, 10020, US	
NUMBER OF CLAIMS:	65	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	28 Drawing Page(s)	
LINE COUNT:	2847	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Composite materials comprising a water-soluble compound adsorbed onto a basic inorganic material and a bio-degradable polymer which yields acidic degradation products, methods of producing same, and methods of use thereof are described, wherein the composite materials are designed so as to provide controlled release of the water soluble molecule.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 17 OF 50 USPATFULL on STN

ACCESSION NUMBER: 2005:57413 USPATFULL

TITLE: Microfine relatively high molecular weight polyethylene powders

INVENTOR(S): McFaddin, Douglas C., Cincinnati, OH, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050049330	A1	20050303
APPLICATION INFO.:	US 2003-649988	A1	20030827 (10)

DOCUMENT TYPE: Utility  
 FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: EQUITSTAR CHEMICALS, L.P., 11530 NORTHLAKE, CINCINNATI,  
 OH, 45249  
 NUMBER OF CLAIMS: 12  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 503

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Microfine low density polyethylene powders are provided. The powders are comprised of spherical or substantially spherical particles having an average particle size of 5 microns or less produced by a dispersion process. The powders, by virtue of their relatively high molecular weights compared to conventional polyethylene waxes, have a useful balance of physical properties.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 18 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 2003:270950 USPATFULL  
 TITLE: Lithographic printing plate precursor  
 INVENTOR(S): Ohashi, Hidekazu, Shizuoka, JAPAN

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030190553	A1	20031009
	US 6680161	B2	20040120
APPLICATION INFO.:	US 2001-812053	A1	20010320 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-78597	20000321
	JP 2000-337792	20001106

DOCUMENT TYPE: Utility  
 FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: Platon N. Mandros, BURNS, DOANE, SWECKER & MATHIS,  
 L.L.P., P.O. Box 1404, Alexandria, VA, 22313-1404  
 NUMBER OF CLAIMS: 2  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 4235

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A lithographic printing plate precursor which comprises a support having a hydrophilic surface having provided thereon in order of a layer containing a latex (layer A) and an ink-receptive layer (layer B) whose solubility at least either in water or in an aqueous solution is converted by heat, wherein at least one layer of either layer A or layer B contains a light/heat converting agent.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 19 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 2003:243897 USPATFULL  
 TITLE: Use of polymeric reaction product  
 INVENTOR(S): Raether, Roman Benedikt, Limburgerhof, GERMANY, FEDERAL  
 REPUBLIC OF  
 Brinkmann-Rengel, Susanne, Ober-Olm, GERMANY, FEDERAL  
 REPUBLIC OF  
 Haremza, Sylke, Neckargemund, GERMANY, FEDERAL REPUBLIC  
 OF

NUMBER	KIND	DATE
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PATENT INFORMATION:	US 20030170306	A1	20030911
	US 7008990	B2	20060307
APPLICATION INFO.:	US 2003-311378	A1	20030421 (10)
	WO 2001-EP6712		20010613

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2000-10029694	20000616
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	KEIL & WEINKAUF, 1350 CONNECTICUT AVENUE, N.W., WASHINGTON, DC, 20036	
NUMBER OF CLAIMS:	7	
EXEMPLARY CLAIM:	1	
LINE COUNT:	2511	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A reaction product (A) which can be prepared by reaction, under free radical conditions, of at least one monomer (a) capable of free radical reaction, in the presence of at least one free radical initiator and of a radical of the formula (III) ##STR1##

where R.sub.1 to R.sub.3, in each case independently of one another, are hydrogen, methyl or a radical-stabilizing and/or bulky group selected from an unsubstituted or substituted, linear or branched alkyl of two or more carbon atoms, cycloalkyl, alcohol, ether, polyether, amine, aralkyl radical, a substituted or unsubstituted aromatic, heterocyclic or olefinic hydrocarbon, a halogen atom, a substituted or unsubstituted, linear or branched alkenyl or alkynyl group, --C(O)R.sub.5, --C(O)OR.sub.5, --CR.sub.5R.sub.6--O--R.sub.7, --O--C(O)R.sub.5, --CN, --O--CN, --S--CN, --O--C.dbd.NR.sub.5, --S--C.dbd.NR.sub.5, --O--CR.sub.5R.sub.6--CR.sub.7R.sub.8NR.sub.9R.sub.10, --N.dbd.C.dbd.O, --C.dbd.NR.sub.5, --CR.sub.5R.sub.6--Hal, --C(S)R.sub.5, --CR.sub.5R.sub.6--P(O)R.sub.7R.sub.8, --CR.sub.5R.sub.6--PR.sub.7R.sub.8, --CR.sub.5R.sub.6--NR.sub.7R.sub.8, --CR.sub.5R.sub.6(OR.sub.7)(OR.sub.8), --CR.sub.5R.sub.6(OR.sub.7)(NR.sub.8), --CR.sub.5R.sub.6(NR.sub.7)(NR.sub.8), an anhydride, acetal or ketal group, --SO.sub.2R.sub.5, an amidine group, --NR.sub.5C(S)NR.sub.6, --NR.sub.5C(S)--OR.sub.6, --N.dbd.C.dbd.S, --NO.sub.2, --C.dbd.N--OH, --N(R.sub.5).dbd.NR.sub.6, --PR.sub.5R.sub.6R.sub.7, --OSiR.sub.5R.sub.6R.sub.7 or --SiR.sub.5R.sub.6R.sub.7, where R.sub.5 to R.sub.10, independently of one another in each case, are defined in the same way as R.sub.1 to R.sub.5, or two of the radicals R.sub.1 to R.sub.4 form a C.sub.4- to C.sub.7-ring which in turn may be substituted or unsubstituted and, if required, may contain one or more heteroatoms, with the proviso that at least two of the radicals R.sub.1 to R.sub.3 are a radical-stabilizing and/or bulky group as defined above, has various uses.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 80 OF 50 USPATFULL ON STN  
 ACCESSION NUMBER: 2002:152268 USPATFULL  
 TITLE: Method for producing a biologically degradable polyhydroxyalkanoate coating with the aid of an aqueous dispersion of polyhydroxyalkanoate  
 INVENTOR(S): Eggink, Gerrit, Ede, NETHERLANDS  
 Northolt, Martin Dinant, Suawoude, NETHERLANDS  
 PATENT ASSIGNEE(S): Stichting Onderzoek en Ontwikkeling Noord-Nederland

(SOONN), Leeuwarden, NETHERLANDS (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6410096	B1	20020625
APPLICATION INFO.:	US 1999-347417		19990706 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1997-765147, filed on 23 Jan 1997, now patented, Pat. No. US 5958480		

	NUMBER	DATE
PRIORITY INFORMATION:	NL 1994-1037	19940623
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Chen, Vivian	
LEGAL REPRESENTATIVE:	Young & Thompson	
NUMBER OF CLAIMS:	4	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	581	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for producing a biologically degradable polyhydroxyalkanoate coating in the form of an elastomeric film, wherein an aqueous dispersion of polyhydroxyalkanoate or a mixture of polyhydroxyalkanoate is prepared and the dispersion is applied to the surface to be coated, after which water is made or allowed to evaporate to obtain a polyhydroxyalkanoate film, the film formation taking place at a temperature lower than the melting point of the polyhydroxyalkanoate, wherein the polyhydroxyalkanoate is a Pseudomonas polyhydroxyalkanoate other than a polymer or copolymer of  $\beta$ -hydroxyvalerate or  $\beta$ -hydroxybutyrate, without requiring additional steps to render the film elastomeric.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 21 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 2002:99528 USPATFULL  
 TITLE: Functional liquid-solid additive systems: compositions, processes, and products thereof  
 INVENTOR(S): Weier, Jane Elizabeth, Hopewell, NJ, UNITED STATES  
 Chou, Chuen-Shyong, Ambler, PA, UNITED STATES  
 Wills, Morris Christopher, St., Phila., PA, UNITED STATES  
 Wu, Jiun-Chen, West Windsor, NJ, UNITED STATES  
 Dougherty, Eugene Patrick, Langhorne, PA, UNITED STATES  
 Conroy, Gary Martin, Cincinnati, OH, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20020052429	A1	20020502
APPLICATION INFO.:	US 2001-944289	A1	20010831 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-230226P	20000903 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ROHM AND HAAS COMPANY, PATENT DEPARTMENT, 100 INDEPENDENCE MALL WEST, PHILADELPHIA, PA, 19106-2399	
NUMBER OF CLAIMS:	20	

EXEMPLARY CLAIM: 1  
 LINE COUNT: 2507  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides functional liquid-solid additive systems and processes for preparing functional liquid-solid additive systems which contain a functional liquid component and a functional solid component, wherein the functional solid component contains two or more polymeric additive particles having different compositions. The present invention also provides polymeric compositions and processes for preparing polymeric compositions that include a polymeric component and a functional liquid-solid additive system which contains a functional liquid component and a functional solid component, wherein the functional solid component contains two or more polymeric additive particles having different compositions. The disclosed compositions and processes are useful in the preparation of polymeric materials and articles produced therefrom.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 22 OF 50 USPATFULL on STN

ACCESSION NUMBER: 2002:85635 USPATFULL  
 TITLE: High solids polymeric additive systems: compositions, processes, and products thereof  
 INVENTOR(S): Weier, Jane Elizabeth, Hopewell, NJ, UNITED STATES  
 Chou, Chuen-Shyong, Ambler, PA, UNITED STATES  
 Wills, Morris Christopher, Phila., PA, UNITED STATES  
 Wu, Jiun-Chen, West Windsor, NJ, UNITED STATES  
 Zeng, Fanwen, Monmouth Junction, NJ, UNITED STATES  
 Dougherty, Eugene Patrick, Langhorne, PA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20020045681	A1	20020418
	US 6881787	B2	20050419
APPLICATION INFO.:	US 2001-944290	A1	20010831 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-230227P	20000903 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ROHM AND HAAS COMPANY, PATENT DEPARTMENT, 100 INDEPENDENCE MALL WEST, PHILADELPHIA, PA, 19106-2399	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
LINE COUNT:	2226	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides polymeric additive systems and processes for preparing polymeric additive systems which contain a liquid component and a solid component, wherein the weight fraction of the solid component is more than 50%. The present invention also provides polymeric compositions and processes for preparing polymeric compositions that include a polymeric component and a polymeric additive system which contains a liquid component and a solid component, wherein the weight fraction of the solid component is more than 50%. The disclosed compositions and processes are useful in the preparation of polymeric materials and articles produced therefrom.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 23 OF 50 USPATFULL on STN

ACCESSION NUMBER: 2002:85634 USPATFULL

TITLE: Multiple polymeric additive systems: compositions, processes, and products thereof

INVENTOR(S): Weier, Jane Elizabeth, Hopewell, NJ, UNITED STATES  
 Chou, Chuen-Shyong, Ambler, PA, UNITED STATES  
 Wills, Morris Christopher, Phila, PA, UNITED STATES  
 Wu, Jiun-Chen, Windsor, NJ, UNITED STATES  
 Dougherty, Eugene Patrick, Langhorne, PA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20020045680	A1	20020418
	US 6875808	B2	20050405
APPLICATION INFO.:	US 2001-943690	A1	20010831 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-230228P	20000903 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ROHM AND HAAS COMPANY, PATENT DEPARTMENT, 100 INDEPENDENCE MALL WEST, PHILADELPHIA, PA, 19106-2399	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
LINE COUNT:	2437	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides multiple polymeric additive systems and processes for preparing multiple polymeric additive systems which contain a liquid component and a solid component, wherein the solid component contains two or more polymeric additive particles having different compositions. The present invention also provides polymeric compositions and processes for preparing polymeric compositions that include a polymeric component and a multiple polymeric additive system which contains a liquid component and a solid component, wherein the solid component contains two or more polymeric additive particles having different compositions. The disclosed compositions and processes are useful in the preparation of polymeric materials and articles produced therefrom.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 24 OF 50 USPATFULL on STN

ACCESSION NUMBER: 2001:234909 USPATFULL

TITLE: Multi-phase solid ion and electron conducting membrane with low volume percentage electron conducting phase and methods for fabricating

INVENTOR(S): Chen, Chieh Cheng, Gatzville, NY, United States  
 Prasad, Ravi, E. Amherst, NY, United States  
 Mazanec, Terry J., Naperville, IL, United States  
 Besecker, Charles J., Batavia, IL, United States

PATENT ASSIGNEE(S): Praxair Technology, Inc., Danbury, CT, United States (U.S. corporation)  
 BP Amoco Corporation, Danbury, CT, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6332964	B1	20011225
APPLICATION INFO.:	US 2000-488992		20000120 (9)



RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1999-241611, filed on 2 Feb 1999, now patented, Pat. No. US 6187157  
Continuation-in-part of Ser. No. US 1996-775683, filed on 31 Dec 1996, now patented, Pat. No. US 5911860

DOCUMENT TYPE: Utility  
FILE SEGMENT: GRANTED  
PRIMARY EXAMINER: Bell, Bruce F.  
LEGAL REPRESENTATIVE: Rosenblum, David M.  
NUMBER OF CLAIMS: 22  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 6 Drawing Page(s)  
LINE COUNT: 1156  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A multi-phase solid electrolyte ion transport membrane comprising at least two phases wherein one of the phases comprises an oxygen ion single conductive material. The other phase comprises an electronically-conductive metal or metal oxide conducting phase is present in a low volume percentage. One method for achieving this result incorporates the minority phase into the powder from which the membrane is made by deposition of the metal or metal oxide from a polymer made by polymerizing a chelated metal dispersion in a polymerizable organic monomer or prepolymer. The multi-phase composition advantageously comprises a first phase of a ceramic material and a second phase of a metal or metal oxide bound to a surface of the ceramic material. A second method fabricates the membrane from a mixture of two powders one of which contains a mixture of the two phases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 25 OF 50 USPATFULL ON STN  
ACCESSION NUMBER: 2000:9981 USPATFULL  
TITLE: Production of polymer emulsions  
INVENTOR(S): Haddleton, David Mark, Kenilworth, United Kingdom  
Padget, John Christopher, Frodsham, United Kingdom  
Overbeek, Gerardus Cornelis, Waalwijk, Netherlands  
PATENT ASSIGNEE(S): Zeneca Limited, London, United Kingdom (non-U.S. corporation)  
Zeneca Resins BV, Waalwijk, Netherlands (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6017992		20000125
APPLICATION INFO.:	US 1998-107505		19980630 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 591442		

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1993-16221	19930805
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Mulcahy, Peter D.	
LEGAL REPRESENTATIVE:	Pillsbury Madison & Sutro LLP	
NUMBER OF CLAIMS:	8	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1351	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Process for the production of an aqueous polymer emulsion which process comprises:

a) preparing a low molecular weight polymer containing acid-functional groups using a free-radical polymerisation process which employs a free-radical initiator and, for the purpose of controlling molecular weight, a transition metal chelate complex, wherein said low molecular weight polymer has a number average molecular weight within the range of from 500 to 50,000;

b) conducting an aqueous emulsion polymerisation process to form an aqueous emulsion of a hydrophobic polymer from at least one olefinically unsaturated monomer, wherein the low molecular weight polymer of step a) is introduced to the aqueous medium of said emulsion polymerisation process before the start of and/or during said emulsion polymerisation process and becomes dissolved or dispersed in said aqueous medium.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 26 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 1999:117158 USPATFULL  
 TITLE: Monodisperse particle latices of vinyl chloride polymers  
 INVENTOR(S): Grossleil, Jacques, Orthez, France  
 Kappler, Patrick, Ecully, France  
 Krantz, Nicolas, Bernay, France  
 PATENT ASSIGNEE(S): Elf Atochem S.A., Puteaux, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5958586		19990928
APPLICATION INFO.:	US 1995-461749		19950605 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-184451, filed on 21 Jan 1994, now abandoned which is a division of Ser. No. US 1991-765496, filed on 26 Sep 1991, now patented, Pat. No. US 5296575 which is a continuation of Ser. No. US 1988-180837, filed on 12 Apr 1988, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1987-5260	19870414
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Krynski, William	
ASSISTANT EXAMINER:	Gray, J. M.	
LEGAL REPRESENTATIVE:	Burns, Doane, Swecker & Mathis, L.L.P.	
NUMBER OF CLAIMS:	6	
EXEMPLARY CLAIM:	1	
LINE COUNT:	613	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Improved monodisperse spheroidal particle latices of vinyl chloride polymers, e.g., having particle sizes ranging from 0.17 to 0.8  $\mu\text{m}$  or from 0.5 to 1.2  $\mu\text{m}$ , are produced by aqueous emulsion polymerization of vinyl chloride monomer, whether in a single stage or in two stages, in the absence of surface-active agent, in the presence of at least 0.2% by weight of at least one water-soluble alkali metal or ammonium persulfate initiator, and also in the presence of at least one water-soluble auxiliary compound that is a solvent for vinyl chloride, in such amount that the solubility of vinyl chloride in the aqueous phase at 25° C. at atmospheric pressure is at least 1.5 g/l.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 27 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 1999:117052 USPATFULL  
 TITLE: Method for producing a biologically degradable polyhydroxyalkanoate coating with the aid of an aqueous dispersion of polyhydroxyalkanoate  
 INVENTOR(S): Eggink, Gerrit, Ede, Netherlands  
 Northolt, Martin Dinant, Suawoude, Netherlands  
 PATENT ASSIGNEE(S): Stichting Onderzoek en Ontwikkeling Noord-Nederland (SOONN), Leeuwarden, Netherlands (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5958480		19990928
	WO 9600263		19960104
APPLICATION INFO.:	US 1997-765147		19970123 (8)
	WO 1995-NL222		19950623
			19970123 PCT 371 date
			19970123 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	NL 1994-1037	19940623
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Bhat, Nina	
LEGAL REPRESENTATIVE:	Young & Thompson	
NUMBER OF CLAIMS:	32	
EXEMPLARY CLAIM:	1	
LINE COUNT:	655	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for producing a biologically degradable polyhydroxyalkanoate coating in the form of an elastomeric film, wherein an aqueous dispersion of polyhydroxyalkanoate or a mixture of polyhydroxyalkanoates is prepared and the dispersion is applied to the surface to be coated, after which water is made or allowed to evaporate to obtain a polyhydroxyalkanoate film, the film formation taking place at a temperature lower than the melting point of the polyhydroxyalkanoate, such a temperature even for example being more than 35° C. below the melting point and in which the polyhydroxyalkanoate used is a polymer which is made up of saturated or unsaturated 3-hydroxy fatty acids having a carbon-chain length of 6-14 and/or is a Pseudomonas polyhydroxyalkanoate other than a polymer or copolymer of  $\beta$ -hydroxyvalerate or  $\beta$ -hydroxybutyrate, without requiring additional steps to render the film elastomeric. Product coated with such a polyhydroxyalkanoate film, in particular a coated product to be applied to or consumed by a human being or animal or a product which must not be exposed to a temperature equal to or more than 100° C., such as cheese.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 28 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 1998:108462 USPATFULL  
 TITLE: Production of polymer emulsions  
 INVENTOR(S): Haddleton, David Mark, Kenilworth, United Kingdom  
 Padgett, John Christopher, Frodsham, United Kingdom  
 Overbeek, Gerardus Cornelis, Waalwijk, Netherlands

PATENT ASSIGNEE(S): Zeneca Limited, London, England (non-U.S. corporation)  
Zeneca Resins BV, Vaalwijk, Netherlands (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5804632		19980908
	WO 9504767		19950216
APPLICATION INFO.:	US 1996-591442		19960129 (8)
	WO 1994-GB1692		19940802
			19960129 PCT 371 date
			19960129 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1993-16221	19930805
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Mulcahy, Peter D.	
LEGAL REPRESENTATIVE:	Pillsbury Madison & Sutro LLP	
NUMBER OF CLAIMS:	48	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1473	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Process for the production of an aqueous polymer emulsion which process comprises:

a) preparing a low molecular weight polymer containing acid-functional groups using a free-radical polymerisation process which employs a free-radical initiator and, for the purpose of controlling molecular weight, a transition metal chelate complex, wherein said low molecular weight polymer has a number average molecular weight within the range of from 500 to 50,000;

b) conducting an aqueous emulsion polymerisation process to form an aqueous emulsion of a hydrophobic polymer from at least one olefinically unsaturated monomer, wherein the low molecular weight polymer of step a) is introduced to the aqueous medium of said emulsion polymerisation process before the start of and/or during said emulsion polymerisation process and becomes dissolved or dispersed in said aqueous medium.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 29 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 1998:28200 USPATFULL  
 TITLE: Cyclodextrin derivatives having at least one nitrogen-containing heterocycle, their preparation and use  
 INVENTOR(S): Reuscher, Helmut, Emmerting, Germany, Federal Republic of  
 Hirsenkorn, Rolf, Munchen, Germany, Federal Republic of  
 Haas, Wolfgang, Altoetting, Germany, Federal Republic of  
 PATENT ASSIGNEE(S): Consortium fur elektrochemische Industrie GmbH,  
 Munchen, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5728823		19980317

APPLICATION INFO.: US 1995-512653 19950808 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1994-4429229	19940818
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Kight, John	
ASSISTANT EXAMINER:	White, Everett	
LEGAL REPRESENTATIVE:	Collard & Roe, P.C.	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1	
LINE COUNT:	2560	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Reactive cyclodextrin derivatives have at least one nitrogen-containing heterocycle. The reactive cyclodextrin derivatives include at least one nitrogen-containing heterocycle having at least one electrophilic center.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 30 OF 50 USPATFULL on STN

ACCESSION NUMBER:	97:5736	USPATFULL
TITLE:	Antimicrobial particles of silver and barium sulfate or zinc oxide	
INVENTOR(S):	Jacobson, Howard W., Wilmington, DE, United States Scholla, Michael H., Wilmington, DE, United States Wigfall, Annie W., Wilmington, DE, United States	
PATENT ASSIGNEE(S):	E. I. Du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)	

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5595750		19970121
APPLICATION INFO.:	US 1994-361003		19941221 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1993-6022, filed on 15 Jan 1993, now abandoned which is a continuation of Ser. No. US 1991-742963, filed on 9 Aug 1991, now patented, Pat. No. US 5180585		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Levy, Neil S.		
NUMBER OF CLAIMS:	12		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1454		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An antimicrobial composition comprising an inorganic particle with a first coating providing antimicrobial properties and a second coating providing a protective function is disclosed with a method for preparing the same and uses; further processes for producing polymeric articles and a method for controlling microorganisms are also disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 31 OF 50 USPATFULL on STN

ACCESSION NUMBER:	96:104049	USPATFULL
TITLE:	Granular vinyl chloride resin composition and process for its production	
INVENTOR(S):	Noro, Yukio, Yokkaichi, Japan	
PATENT ASSIGNEE(S):	Mitsubishi Chemical Corporation, Tokyo, Japan (non-U.S.)	

corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5574086		19961112
APPLICATION INFO.:	US 1994-278498		19940721 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1993-182715	19930723
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Hoke, Veronica P.	
LEGAL REPRESENTATIVE:	Obion, Spivak, McClelland, Maier & Neustadt, P.C.	
NUMBER OF CLAIMS:	22	
EXEMPLARY CLAIM:	1	
LINE COUNT:	708	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A granular vinyl chloride resin composition in the form of spherical or cylindrical granules having a size of from 0.05 to 20 mm made of a mixture comprising, as the main components, 100 parts by weight of fine vinyl chloride resin particles having a particle size of from 0.01 to 3  $\mu$ m, a coarse vinyl chloride resin having a particle size of 5 to 65  $\mu$ m and from 10 to 400 parts by weight of a filler.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 32 OF 50 USPATFULL on STN

ACCESSION NUMBER: 96:89646 USPATFULL

TITLE: Method for preparing aqueous emulsion for coating solid pharmaceutical preparations

INVENTOR(S): Maruyama, Naosuke, Nakakubiki-gun, Japan  
Kokubo, Hiroyasu, Nakakubiki-gun, Japan  
Kawashima, Yoshiaki, Gifu, Japan

PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5560930		19961001
APPLICATION INFO.:	US 1994-360649		19941221 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1993-331431	19931227
	JP 1993-331432	19931227
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Page, Thurman K.	
ASSISTANT EXAMINER:	Benston, Jr., William E.	
LEGAL REPRESENTATIVE:	Parkhurst, Wendel & Burr, L.L.P.	
NUMBER OF CLAIMS:	3	
EXEMPLARY CLAIM:	1	
LINE COUNT:	637	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method permits the easy preparation of an aqueous emulsion for coating solid pharmaceutical preparations through emulsification in water without addition of additives such as emulsifying agents, polymerization initiators, chain transfer agents, salts and plasticizers. A cellulosic polymer is dissolved in an organic solvent miscible in water in any rate

or a mixed solvent comprising the organic solvent and water to give a polymer solution. The polymer solution is mixed with water to disperse the solution in water and thereafter the organic solvent is removed to form an aqueous emulsion for coating solid pharmaceutical preparations. If ethyl cellulose is used as a coating base, ethyl cellulose is first dissolved in a non-hydrophilic solvent to give a non-hydrophilic solution thereof. The non-hydrophilic solution is dissolved in a solvent containing at least an organic solvent miscible with water in any rate, the resulting ethyl cellulose solution is brought into contact with water to disperse the ethyl cellulose solution therein and then the solvent is removed from the emulsion formed through self-emulsification of the ethyl cellulose solution to form an aqueous coating emulsion.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 33 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 96:87664 USPATFULL  
 TITLE: Polyvinyl acetals which can form emulsifier-free aqueous dispersions and redispersible dry powders, processes for their preparation and their use  
 INVENTOR(S): Kroggel, Matthias, Kelkheim, Germany, Federal Republic of  
 Schindler, Hermann, Hofheim, Germany, Federal Republic of  
 PATENT ASSIGNEE(S): Hoechst Aktiengesellschaft, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5559175		19960924
APPLICATION INFO.:	US 1995-394418		19950224 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1993-138121, filed on 15 Oct 1993, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1992-4235151	19921019
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Reddick, Judy M.	
LEGAL REPRESENTATIVE:	Bierman & Muserlian	
NUMBER OF CLAIMS:	14	
EXEMPLARY CLAIM:	1	
LINE COUNT:	897	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Preparation of polyvinyl acetals which can form emulsifier- and surfactant-free aqueous dispersions and redispersible dry powders and contain copolymeric polyvinyl acetals with, in amounts sufficient to form a dispersion, comonomer units carrying sulfo salt groups which are derived from copolymeric polyvinyl alcohol (PVALs) which contained comonomer units carrying sulfonate groups in the salt form. The preparation is carried out by acetalization of the starting polyvinyl alcohols to be used with aldehydes or aldehyde acetals under acid-catalyzed acetalization conditions in an aqueous medium, emulsifier-free stable aqueous polyvinyl acetal dispersions being obtained, from which dry redispersible polyvinyl acetal powders can be obtained by spray drying or freeze drying. The polyvinyl acetals according to the invention can be plasticized by mixing in plasticizers both in their aqueous dispersion form and in the dry powder form. The

polyvinyl acetals according to the invention can be employed, both in the aqueous dispersion form and in the dry powder form, in numerous fields of use where polyvinyl acetals of the type known to date are already usually used. Moreover, because of the advantageous spectrum of properties of polyvinyl acetals according to the invention, numerous new fields of use are accessible.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 34 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 96:82778 USPATFULL  
 TITLE: Granular vinyl chloride resin and process for its preparation  
 INVENTOR(S): Niikuni, Tokio, Yokkaichi, Japan  
 Noro, Yukio, Yokkaichi, Japan  
 PATENT ASSIGNEE(S): Mitsubishi Chemical MKV Company, Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5554707		19960910
APPLICATION INFO.:	US 1994-221456		19940401 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1993-5399, filed on 15 Jan 1993, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1992-6840	19920117
	JP 1992-6841	19920117
	JP 1992-6842	19920117
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Henderson, Christopher	
LEGAL REPRESENTATIVE:	Oblon, Spivak, McClelland, Maier, & Neustadt, P.C.	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1	
LINE COUNT:	770	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A granular vinyl chloride resin having a mixture comprising the following vinyl chloride resin particles (A), (B) and (C) as main components granulated to have a spherical shape with a diameter of from 50 to 300  $\mu\text{m}$  or a cylindrical shape with a diameter of from 0.1 to 20 mm:

(A) from 90 to 10% by weight of fine particles with diameters within a range of not larger than 3  $\mu\text{m}$  (hereinafter referred to as fine particles (A)),

(B) from 10 to 90% by weight of particles with diameters within a range of from 5 to 65  $\mu\text{m}$  (hereinafter referred to as particles (B)), and

(C) from 0 to 10% by weight of particles with diameters other than those of particles (A) and (B).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 35 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 94:24409 USPATFULL  
 TITLE: Monodisperse particle latices of vinyl chloride polymers



INVENTOR(S): Grossoleil, Jacques, Orthez, France  
 Kappler, Patrick, Ecully, France  
 Krantz, Nicolas, Bernay, France  
 PATENT ASSIGNEE(S): Atochem, Puteaux, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5296575		19940322
APPLICATION INFO.:	US 1991-765496		19910926 (7)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1988-180837, filed on 12 Apr 1988, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1987-5260	19870414
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Ryan, Patrick J.	
ASSISTANT EXAMINER:	Gray, J. M.	
LEGAL REPRESENTATIVE:	Burns, Doane, Swecker & Mathis	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
LINE COUNT:	620	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Improved monodisperse spheroidal particle latices of vinyl chloride polymers, e.g., having particle sizes ranging from 0.17 to 0.8  $\mu$ m or from 0.5 to 1.2  $\mu$ m, are produced by aqueous emulsion polymerization of vinyl chloride monomer, whether in a single stage or in two stages, in the absence of surface-active agent, in the presence of at least 0.2% by weight of at least one water-soluble alkali metal or ammonium persulfate initiator, and also in the presence of at least one water-soluble auxiliary compound that is a solvent for vinyl chloride, in such amount that the solubility of vinyl chloride in the aqueous phase at 25° C. at atmospheric pressure is at least 1.5 g/l.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 36 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 93:5247 USPATFULL  
 TITLE: Antimicrobial compositions, process for preparing the same and use  
 INVENTOR(S): Jacobson, Howard W., Wilmington, DE, United States  
 Scholla, Michael H., Wilmington, DE, United States  
 Samuels, Sam L., Claymont, DE, United States  
 PATENT ASSIGNEE(S): E. I. Du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5180585		19930119
APPLICATION INFO.:	US 1991-742963		19910809 (7)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Michl, Paul R.		
ASSISTANT EXAMINER:	Levy, Neil S.		
NUMBER OF CLAIMS:	20		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1454		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An antimicrobial composition comprising an inorganic particle with a first coating providing antimicrobial properties and a second coating providing a protective function, method for preparing the same and uses; further processes for producing polymeric articles and a method for controlling microorganisms.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 37 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 90:63595 USPATFULL  
 TITLE: Process for spray drying of vinyl chloride homopolymers and copolymers  
 INVENTOR(S): Brulet, Daniel, Saint-Symphorien D'ozon, France  
 Pommier, Yves, Saint-Auban, France  
 PATENT ASSIGNEE(S): Atochem, Paris la Defense, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4948872		19900814
APPLICATION INFO.:	US 1987-91271		19870831 (7)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1986-12781	19860912
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Henderson, Christopher	
LEGAL REPRESENTATIVE:	Sigalos, Levine & Montgomery	
NUMBER OF CLAIMS:	3	
EXEMPLARY CLAIM:	1	
LINE COUNT:	358	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for the preparation of vinyl chloride homopolymer and copolymer pulverulent powders suitable for the preparation of plastisols with improved rheological properties, comprising polymerizing to form a vinyl chloride homopolymer or copolymer latex and drying said latex by atomization, the temperature at which the latex to be subjected to drying by atomization is employed being at least equal to 40° C. and being lower than the degradation temperature of said homopolymer or copolymer, and the resultant vinyl chloride polymer pulverulent powders.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 38 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 90:57839 USPATFULL  
 TITLE: Ultra-fine particulated polymer latex and composition containing the same  
 INVENTOR(S): Morita, Hiroshi, Chiba, Japan  
 Hirota, Eiichi, Funabashi, Japan  
 Ishizaki, Yasuo, Tokyo, Japan  
 PATENT ASSIGNEE(S): Lion Corporation, Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4943612		19900724
APPLICATION INFO.:	US 1987-128657		19871203 (7)

NUMBER	DATE
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PRIORITY INFORMATION:	JP 1986-290839	19861206
	JP 1986-290840	19861206
	JP 1986-290841	19861206
	JP 1986-290842	19861206
	JP 1986-290843	19861206
	JP 1986-290844	19861206
	JP 1986-290845	19861206
	JP 1986-290846	19861206
	JP 1987-76037	19870331
	JP 1987-102731	19870424
	JP 1987-102732	19870424
	JP 1987-102733	19870424
	JP 1987-102734	19870424
	JP 1987-102735	19870424
	JP 1987-102736	19870424
	JP 1987-102737	19870424
	JP 1987-149980	19870615
	JP 1987-149982	19870615
	JP 1987-149983	19870615

DOCUMENT TYPE: Utility  
 FILE SEGMENT: Granted  
 PRIMARY EXAMINER: Schofer, Joseph L.  
 ASSISTANT EXAMINER: McDonald, Jr., T.  
 LEGAL REPRESENTATIVE: Armstrong, Nikaido, Marmelstein, Kubovcik & Murray  
 NUMBER OF CLAIMS: 4  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)  
 LINE COUNT: 4598

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An ultra-fine particulated polymer latex having an average particle size of 100 nm or less, a crosslinked structure and a glass transition temperature lower than a value calculated by a weight fraction method.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 39 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 85:9116 USPATFULL  
 TITLE: Finely divided polyvinyl acetals, a process for their preparation, and their use in baked coatings  
 INVENTOR(S): Hermann, Hans D., Bad Soden am Taunus, Germany, Federal Republic of  
 Hutten, Ulrich M., Kelkheim, Germany, Federal Republic of  
 PATENT ASSIGNEE(S): Hoechst Aktiengesellschaft, Frankfurt am Main, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4499236		19850212
APPLICATION INFO.:	US 1983-562218		19831216 (6)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1982-3246605	19821216
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Michl, Paul R.	
ASSISTANT EXAMINER:	Walker, A. H.	

LEGAL REPRESENTATIVE: Berman, Aisenberg & Platt  
 NUMBER OF CLAIMS: 20  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 553

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to finely divided polyvinyl acetal which is prepared in the form of an aqueous suspension or, if desired, in powder form, preferably having average particle sizes from 0.5 to 10  $\mu\text{m}$ , from polyvinyl alcohol and at least one aliphatic aldehyde having at least 3 carbon atoms, and which contains 0.1 to 10% by weight, based on polyvinyl acetal, of a completely or partially hydrolyzed vinyl ester copolymer grafted onto polyethylene oxide or polyethylene oxide derivatives and acetalized in the mixture with the polyvinyl alcohol.

The invention further relates to a process for preparing finely divided polyvinyl acetals having an average particle size between 0.5 and 10  $\mu\text{m}$  in an aqueous suspension or, if desired, by dewatering the suspension, in powder form, by reacting an aqueous solution of polyvinyl alcohol, in the presence of an acidic catalyst and in the absence or presence of emulsifiers, with at least one aliphatic aldehyde having at least 3 carbon atoms, which comprises performing the acetalization reaction in the presence of 0.1 to 10% by weight, based on the polyvinyl alcohol used, of a completely or partially hydrolyzed graft copolymer of vinyl ester on polyethylene oxide or polyethylene oxide derivatives.

A further part of the subject-matter of the invention is the use of the finely divided polyvinyl acetals described above, in particular from a low-electrolyte or electrolyte-free aqueous suspension, preferably having an average particle size between 0.5 and 10  $\mu\text{m}$ , for baked coatings on any coatable substrates, in particular on metals.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 40 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 82:35329 USPATFULL  
 TITLE: Method of preparing homo and co-polymers of vinyl chloride adapted to give plastisols from a latex containing two populations of particles  
 INVENTOR(S): Arnal, Claude, Saint Auban, France  
 Pompon, Jean-Barnard, Saint Auban, France  
 Rouillet, Robert, Lyons, France  
 PATENT ASSIGNEE(S): Chloe Chimie, Paris, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4340722		19820720
APPLICATION INFO.:	US 1980-200092		19801023 (6)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1979-27282	19791106
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Henderson, C. A.	
LEGAL REPRESENTATIVE:	McDougall, Hersh & Scott	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)	
LINE COUNT:	1175	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of preparing homo and co-polymers of vinyl chloride in the form of a powder adapted to give plastisols, in which a latex of homo or co-polymers of vinyl chloride, containing from 30 to 60% by weight of dry material and comprising two populations of particles with specific granulometric properties, is concentrated by eliminating a fraction of the aqueous phase in the liquid state, then the residual water is dried off. The dry material content of the concentrated latex is from 50 to 80% by weight, and the absolute difference between the dry material content of the latex before and after concentration is over 10% by weight.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 41 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 82:35309 USPATFULL  
 TITLE: Ultrafiltration of vinyl resin latices and reuse of permeate in emulsion polymerization  
 INVENTOR(S): Huddleston, Jr., George R., Lorain, OH, United States  
 Turner, James W., Bay Village, OH, United States  
 PATENT ASSIGNEE(S): The B. F. Goodrich Company, Akron, OH, United States  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4340702		19820720
APPLICATION INFO.:	US 1979-86853		19791022 (6)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Henderson, C. A.		
LEGAL REPRESENTATIVE:	Wymbs, Roy P., Csontos, Alan A.		
NUMBER OF CLAIMS:	16		
EXEMPLARY CLAIM:	1		
LINE COUNT:	572		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB There is disclosed a process of preparing vinyl dispersion resins by conducting the polymerization reaction of the vinyl monomer or monomers in an aqueous medium in the presence of a polymerization initiator or catalyst and an emulsifier or emulsifier system to form a vinyl resin latex, which is then subjected to an ultrafiltration step by forcing the same through a semipermeable membrane leaving behind the polymer particles and reusing the permeate, which contains dissolved monomer(s) and emulsifier, in the further production of vinyl resin latices. Unexpectedly, further use of the permeate substantially reduces polymer buildup in the reactor and since the ultrafiltration step increases the polymer particle concentration in the latex, considerable heat energy is saved in the spray-drying step.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 42 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 78:17900 USPATFULL  
 TITLE: Process for concentrating latices  
 INVENTOR(S): Heinze, Christoph, Burghausen, Salzach, Germany,  
 Federal Republic of  
 Ruchlak, Kasimir, Burgkirchen, Alz, Germany, Federal  
 Republic of  
 Steude, Holm, Emmerting, Germany, Federal Republic of  
 PATENT ASSIGNEE(S): Hoechst Aktiengesellschaft, Frankfurt am Main, Germany,  
 Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4082659		19780404
APPLICATION INFO.:	US 1976-741042		19761111 (5)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1975-571227, filed on 24 Apr 1975, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1974-2420922	19740430
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Henderson, Christopher A.	
LEGAL REPRESENTATIVE:	Connolly and Hutz	
NUMBER OF CLAIMS:	3	
EXEMPLARY CLAIM:	1	
LINE COUNT:	369	

AB The present invention is related to the process of concentrating K-polymer-latexes by ultra filtration carried out by means of a semi-permeable membrane made of a synthetic polymer having a determined molecular weight, comprising that the membrane is pretreated with an emulsifier solution prior to ultra filtration. This operation substantially prevents the formation of solid matter deposits on the membrane.

L9 ANSWER 43 OF 50 USPAT2 on STN  
 ACCESSION NUMBER: 2006:27548 USPAT2  
 TITLE: Composite materials for controlled release of water soluble products  
 INVENTOR(S): Ying, Jackie Y., Winchester, MA, UNITED STATES  
 Yong, Tseh-Hwan, Somerville, MA, UNITED STATES  
 PATENT ASSIGNEE(S): Massachusetts Institute of Technology, Cambridge, MA, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7211275	B2	20070501
APPLICATION INFO.:	US 2005-34217		20050113 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2004-536710P	20040116 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Wax, Robert A.	
LEGAL REPRESENTATIVE:	Pearl, Cohen, Zedek, Latzer, LLP, Cohen, Mark S.	
NUMBER OF CLAIMS:	53	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	28 Drawing Figure(s); 28 Drawing Page(s)	
LINE COUNT:	2837	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Composite materials comprising a water-soluble compound adsorbed onto a basic inorganic material and a bio-degradable polymer which yields acidic degradation products, methods of producing same, and methods of use thereof are described, wherein the composite materials are designed so as to provide controlled release of the water soluble molecule.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 44 OF 50 USPAT2 on STN  
 ACCESSION NUMBER: 2004:221744 USPAT2  
 TITLE: Treatment method, which promotes the removal of dirt,  
 for the surfaces of textiles and non-textiles  
 INVENTOR(S): Hamers, Christoph, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF  
 Boeckh, Dieter, Limburgerhof, GERMANY, FEDERAL REPUBLIC  
 OF  
 Schmidt, Kati, Ludwigshafen, GERMANY, FEDERAL REPUBLIC  
 OF  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7074750	B2	20060711
	WO 2002103105		20021227
APPLICATION INFO.:	US 2002-479983		20020614 (10)
	WO 2002-EP6628		20020614
			20031215 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2001-10128894	20010615
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Boyer, Charles	
LEGAL REPRESENTATIVE:	Obion, Spivak, McClelland, Maier & Neustadt, P.C.	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	1340	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB A process for the soil release treatment of surfaces of textile and nontextile materials, in which cationically modified hydrophilic nanoparticles based on crosslinked polymers of		
(a) 60 to 99.99% by weight of one or more carboxyl-containing ethylenically unsaturated monomers or salts thereof,		
(b) 0 to 40% by weight of one or more water-insoluble monoethylenically unsaturated monomers,		
(c) 0.01 to 30% by weight of one or more polyethylenically unsaturated monomers,		
(d) 0 to 25% by weight of one or more sulfonic acid- and/or phosphonic acid-containing monomers or salts thereof,		
(e) 0 to 30% by weight of one or more water-soluble nonionic monomers are applied to the surface of the materials from an aqueous dispersion, where the dispersion of the hydrophilic nanoparticles can be stabilized with anionic, nonionic and/or betainic emulsifiers and/or protective colloids, and where the hydrophilic nanoparticles have a particle size of from 10 nm to 2 $\mu$ m and have been cationically modified by coating their surface with one or more cationic polymers, one or more polyvalent metal ions and/or one or more cationic surfactants.		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 45 OF 50 USPAT2 on STN  
 ACCESSION NUMBER: 2003:270950 USPAT2  
 TITLE: Lithographic printing plate precursor

INVENTOR(S): Oohashi, Hidekazu, Shizuoka, JAPAN  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Minami-Ashigara, JAPAN  
 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6680161	B2	20040120
APPLICATION INFO.:	US 2001-812053		20010320 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-78597	20000321
	JP 2000-337792	20001106
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Hamilton, Cynthia	
LEGAL REPRESENTATIVE:	Burns, Doane, Swecker & Mathis, LLP	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1,6	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	4122	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A lithographic printing plate precursor which comprises a support having a hydrophilic surface having provided thereon in order of a layer containing a latex (layer A) and an ink-receptive layer (layer B) whose solubility at least either in water or in an aqueous solution is converted by heat, wherein at least one layer of either layer A or layer B contains a light/heat converting agent.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 46 OF 50 USPAT2 on STN  
 ACCESSION NUMBER: 2003:243897 USPAT2  
 TITLE: Use of polymeric reaction product  
 INVENTOR(S): Raether, Roman Benedikt, Limburgerhof, GERMANY, FEDERAL  
 REPUBLIC OF  
 Brinkmann-Rengel, Susanne, Ober-Olm, GERMANY, FEDERAL  
 REPUBLIC OF  
 Haremza, Sylke, Neckargemund, GERMANY, FEDERAL REPUBLIC  
 OF  
 PATENT ASSIGNEE(S): Basf Aktiengesellschaft, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7008990	B2	20060307
	WO 2001096408		20011220
APPLICATION INFO.:	US 2003-311378		20010613 (10)
	WO 2001-EP6712		20010613
			20030421 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2000-10029694	20000616
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Mulcahy, Peter D.	
LEGAL REPRESENTATIVE:	Novak Druce & Quigg LLP	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	



LINE COUNT: 2815

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A reaction product (A) which can be prepared by reaction, under free radical conditions, of at least one monomer (a) capable of free radical reaction, in the presence of at least one free radical initiator and of a radical of the formula (III) ##STR1## where R.sub.1 to R.sub.3, in each case independently of one another, are hydrogen, methyl or a radical-stabilizing and/or bulky group selected from an unsubstituted or substituted, linear or branched alkyl of two or more carbon atoms, cycloalkyl, alcohol, ether, polyether, amine, aralkyl radical, a substituted or unsubstituted aromatic, heterocyclic or olefinic hydrocarbon, a halogen atom, a substituted or unsubstituted, linear or branched alkenyl or alkynyl group, --C(O)R.sub.5, --C(O)OR.sub.5, --CR.sub.5R.sub.6--O--R.sub.7, --O--C(O)R.sub.5, --CN, --O--CN, --S--CN, --O--C.dbd.NR.sub.5, --S--C.dbd.NR.sub.5, --O--CR.sub.5R.sub.6--CR.sub.7R.sub.8NR.sub.9R.sub.10, --N.dbd.C.dbd.O, --C.dbd.NR.sub.5, --CR.sub.5R.sub.6--Hal, --C(S)R.sub.5, --CR.sub.5R.sub.6--P(O)R.sub.7R.sub.8, --CR.sub.5R.sub.6--PR.sub.7R.sub.8, --CR.sub.5R.sub.6--NR.sub.7R.sub.8, --CR.sub.5R.sub.6(OR.sub.7) (OR.sub.8), --CR.sub.5R.sub.6(OR.sub.7) (NR.sub.8), --CR.sub.5R.sub.6(NR.sub.7) (NR.sub.8), an anhydride, acetal or ketal group, --SO.sub.2R.sub.5, an amidine group, --NR.sub.5C(S)NR.sub.6, --NR.sub.5C(S)--OR.sub.6, --N.dbd.C.dbd.S, --NO.sub.2, --C.dbd.N--OH, --N(R.sub.5).dbd.NR.sub.6, --PR.sub.5R.sub.6R.sub.7, --OSiR.sub.5R.sub.6R.sub.7 or --SiR.sub.5R.sub.6R.sub.7, where R.sub.5 to R.sub.10, independently of one another in each case, are defined in the same way as R.sub.1 to R.sub.4, or two of the radicals R.sub.1 to R.sub.4 form a C.sub.4- to C.sub.7-ring which in turn may be substituted or unsubstituted and, if required, may contain one or more heteroatoms, with the proviso that at least two of the radicals R.sub.1 to R.sub.3 are a radical-stabilizing and/or bulky group as defined above, has various uses.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 47 OF 50 USPAT2 on STN

ACCESSION NUMBER: 2002:85635 USPAT2

TITLE: High solids polymeric additive systems: compositions, processes, and products thereof

INVENTOR(S): Weier, Jane Elizabeth, Hopewell, NJ, UNITED STATES  
 Chou, Chuen-Shyong, Ambler, PA, UNITED STATES  
 Wills, Morris Christopher, Philadelphia, PA, UNITED STATES  
 Wu, Jiun-Chen, West Windsor, NJ, UNITED STATES  
 Zeng, Fanwen, Monmouth Junction, NJ, UNITED STATES  
 Dougherty, Eugene Patrick, Langhorne, PA, UNITED STATES  
 PATENT ASSIGNEE(S): Rohm and Haas Company, Philadelphia, PA, UNITED STATES  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6881787	B2	20050419
APPLICATION INFO.:	US 2001-944290		20010831 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-230227P	20000903 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	

PRIMARY EXAMINER: Yoon, Tae H.  
 LEGAL REPRESENTATIVE: Rosedale, Jeffrey H., Bodner, Marcella M.  
 NUMBER OF CLAIMS: 20  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)  
 LINE COUNT: 2259

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides polymeric additive systems and processes for preparing polymeric additive systems which contain a liquid component and a solid component, wherein the weight fraction of the solid component is more than 50%. The present invention also provides polymeric compositions and processes for preparing polymeric compositions that include a polymeric component and a polymeric additive system which contains a liquid component and a solid component, wherein the weight fraction of the solid component is more than 50%. The disclosed compositions and processes are useful in the preparation of polymeric materials and articles produced therefrom.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 48 OF 50 USPAT2 on STN

ACCESSION NUMBER: 2002:85634 USPAT2

TITLE: Multiple polymeric additive systems: compositions, processes, and products thereof

INVENTOR(S): Weier, Jane Elizabeth, Hopewell, NJ, United States  
 Chou, Chuen-Shyong, Ambler, PA, United States  
 Wills, Morris Christopher, Phila., PA, United States  
 Wu, Jiun-Chen, West Windsor, NJ, United States  
 Dougherty, Eugene Patrick, Langhorne, PA, United States  
 PATENT ASSIGNEE(S): Rohm and Haas Company, Philadelphia, PA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6875808	B2	20050405
APPLICATION INFO.:	US 2001-943690		20010831 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-230228P	20000903 (60)

DOCUMENT TYPE: Utility  
 FILE SEGMENT: GRANTED  
 PRIMARY EXAMINER: Yoon, Tae H.  
 LEGAL REPRESENTATIVE: Bodner, Marcella M., Rosedale, Jeffrey H.  
 NUMBER OF CLAIMS: 8  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)  
 LINE COUNT: 2348

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides multiple polymeric additive systems and processes for preparing multiple polymeric additive systems which contain a liquid component and a solid component, wherein the solid component contains two or more polymeric additive particles having different compositions. The present invention also provides polymeric compositions and processes for preparing polymeric compositions that include a polymeric component and a multiple polymeric additive system which contains a liquid component and a solid component, wherein the solid component contains two or more polymeric additive particles having different compositions. The disclosed compositions and processes are useful in the

preparation of polymeric materials and articles produced therefrom.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 49 OF 50 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:451431 CAPLUS

DOCUMENT NUMBER: 142:482861

TITLE: Production of polymer powders from

aqueous polymer dispersions  
INVENTOR(S): Amrhein, Patrick; Weiss, Axel; Voss, Hartwig; Nolte, Rainer; Bothe, Marc; Meister, Martin

PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005047344	A1	20050526	WO 2004-EP12515	20041105
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10352479	A1	20050609	DE 2003-10352479	20031107
EP 1682588	A1	20060726	EP 2004-818384	20041105
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS			
US 20070083001	A1	20070412	US 2006-578466	20060505
PRIORITY APPLN. INFO.:			DE 2003-10352479	A 20031107
			WO 2004-EP12515	W 20041105

AB In the title process, the polymer dispersion is subjected to membrane filtration and then spray-drying. Emulsion polymerization of styrene 25.00, 1,4-butanediol diacrylate 0.39, Bu acrylate 18.76, and MMA 7.85 kg in the presence of 1.58 kg 33% polystyrene latex gave a polymer dispersion containing 2.2% H2O-soluble compds. This dispersion was subjected to membrane filtration (decreasing the H2O-soluble compds. to 0.04%) and spray-dried to give a powdered polymer which was used as an impact modifier for PVC.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 50 OF 50 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1996:443617 CAPLUS

DOCUMENT NUMBER: 125:88109

ORIGINAL REFERENCE NO.: 125:16625a,16628a

TITLE: Preparation of polymers with high purity useful as binders for magnetic powder

INVENTOR(S): Kondo, Shinichi; Yamakawa, Masahiro

PATENT ASSIGNEE(S): Nippon Zeon Co, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08100022	A	19960416	JP 1994-261066	19940930
JP 3441193	B2	20030825		

PRIORITY APPLN. INFO.: JP 1994-261066 19940930  
 AB Title polymers are prepared by concentrating polymer latexes (obtained by emulsion- or fine suspension-polymerization) by using ultrafiltration membranes, diluting with water, and repeating the described processes. Thus, a polymer latex (prepared from allyl glycidyl ether 18, vinyl chloride 100, 2-hydroxypropyl methacrylate 5, Na dodecylbenzenesulfonate 2, NaHCO<sub>3</sub> 1, K<sub>2</sub>S<sub>2</sub>O<sub>8</sub> 4, and H<sub>2</sub>O 300 parts) was concentrated by using an ultrafiltration membrane, diluting with water, repeating the above steps, and spray-drying to give a powdered polymer. A magnetic coating containing the above powdered polymer as a binder gave a magnetic tape with good quality and durability.

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L9 ANSWER 42 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 78:17900 USPATFULL  
 TITLE: Process for concentrating latices  
 INVENTOR(S): Heinze, Christoph, Burghausen, Salzach, Germany, Federal Republic of  
 Ruchlak, Kasimir, Burgkirchen, Alz, Germany, Federal Republic of  
 Steude, Holm, Emmerting, Germany, Federal Republic of  
 Hoechst Aktiengesellschaft, Frankfurt am Main, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4082659		19780404
APPLICATION INFO.:	US 1976-741042		19761111 (5)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1975-571227, filed on 24 Apr 1975, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1974-2420922	19740430
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Henderson, Christopher A.	
LEGAL REPRESENTATIVE:	Connolly and Hutz	
NUMBER OF CLAIMS:	3	
EXEMPLARY CLAIM:	1	
LINE COUNT:	369	

SUMM Upon emulsion-polymerizing vinyl chloride or vinyl chloride and monomers copolymerizable therewith a latex is formed which contains in addition to the hydrosoluble polymerization agents such as emulsifiers and activators up to 50 weight % of polymer, calculated on the weight of

the latex. In some cases it is necessary or at least desirable to concentrate such latices. For certain application purposes it is useful to further concentrate the latices, for example as bonding agent. When working the latices up to yield a powdery polymer, usually by a drying process, e.g. by spray drying, a process which requires the evaporation of the total quantity of water, economical reasons recommend the further concentration of the original latices to a rate of up to 70 weight % of the polymer.

- SUMM The ultra filtration membranes are characterized by the definition of "partition cut" which indicates the minimum limit of the molecular weight of macromolecules being still retained by the membrane.
- SUMM Prior to their use for ultra filtration the membranes are put in contact to these solutions for at least half an hour, preferably for a period of from half an hour to 48 hours, especially from 10 to 30 hours, for example by immersing the membranes in a vessel with the emulsifier solution. It is useful to treat the support material of the membranes at the same time. The temperature at which the emulsifier treatment is carried out has its lower limit set by the freezing point of the emulsifier solution and its upper limit by the heat resistance temperature of the chosen membrane material. Generally, it is possible to operate at about from 0° C to about 80° C, the treatment is preferably carried through at temperatures from 20° to 50° C.
- SUMM Concentrated latices are needed as such for many purposes, especially for coating. If they are subject to a further treatment such as a drying process, e.g. spray drying, much less energy is needed, since a smaller quantity of water has to be evaporated.
- DETD A vessel contains 40 m.sup.3 of a polyvinyl chloride latex which was prepared continuously by emulsion polymerization, containing 45 weight % of solid matter and having a K-value of the polymer of 54. 70 m.sup.3 of latex per hour were circulation-contacted by means of a pump with a membrane of polymethylmethacrylate having a size of 12m.sup.2 and being constructed asymmetrically such as it is commercially available. The partition cut of this membrane is at a molecular weight of 24 000. The membrane is bonded on both sides on 30 platens of a porous support fabric of 120 mm height and 1700 mm length. The distance from one platen to the next was 3 mm, the flow speed of the latex between the platens was 1,80 m/sec. Prior to its first use the membrane was immersed for 12 hours in a solution of 5 weight % of di-isodecyl-sulfosuccinic acid ester (Na salt) in water. The filtration pressure of the latex in the ultra filtration device was adjusted to 2.5 bar by means of a throttle, the filtrate could escape freely flowing without counter-pressure. The yield per hour was 52 l of filtrate during the first 24 hours, after further 24 hours the filtration output fell to 45 l/h. The feeding of latex to the membrane was interrupted after 120 hours. Visual inspection of the membrane at that moment showed a soft polyvinyl chloride covering which could be removed easily by rinsing with water. The membrane was then rinsed for two minutes with 1 m.sup.3 of water in the opposite direction to the latex flow. Subsequently, the apparatus was again fed with latex as per the above mentioned description. The filtration output was again 52 liters per hour. At the end of about 10 days the solid matter contents of the latex had increased from 45 weight % to 60 weight %. The filtration product was clear and

contained 0.5 weight % of dissolved auxiliary materials but no polyvinyl chloride. Even after 10 days the membrane was covered with a thin, soft layer of polyvinyl chloride only which could be easily removed by rinsing with water. The latex concentrated to 60 weight % of solid matter was dried in a spray drying device to yield polyvinyl chloride powder. The discharge of solid matter was more than twice the discharge obtained upon drying the non pre-concentrated latex, at the same evaporation capacity of the drying device.

DETD The latex obtained according to example 1 containing 60 weight % of solid matter was subject to further concentration in the apparatus described by example 1. A reduced filtration output of 36 l/h was determined. After a treatment of about 120 hours the latex contained 70 % of solid matter. This latex was still capable of being pumped and sprayed in the spray drying device. At the same evaporation capacity of the dryer the solid matter discharge was about three times higher than the rate obtained by spraying the initial latex obtainable by polymerization and containing about 45 % of solid matter. Despite the prolonged treatment period the polyvinyl chloride covering of the membrane was not thicker than the one described by example 1.

CLM What is claimed is:  
1. In a process for concentrating latices which are prepared by emulsion polymerization of vinyl chloride or of vinyl chloride and monomers copolymerizable with vinyl chloride by ultrafiltration by means of a semipermeable membrane of polyacrylonitrile, polymethylmethacrylate or polyamide having a partition cut at a molecular weight of from 10,000 to 50,000, the improvement which comprises the treatment of the membrane, prior to the ultrafiltration, with an aqueous solution having 0.5 to 70 weight % of one or more emulsifiers which are suitable for the emulsion polymerization of vinyl chloride or of vinyl chloride and monomers copolymerizable with vinyl chloride.

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L9 ANSWER 40 OF 50 USPATFULL on STN  
ACCESSION NUMBER: 82:35329 USPATFULL  
TITLE: Method of preparing homo and co-polymers of vinyl chloride adapted to give plastisols from a latex containing two populations of particles  
INVENTOR(S): Arnal, Claude, Saint Auban, France  
Pompon, Jean-Barnard, Saint Auban, France  
Rouillet, Robert, Lyons, France  
PATENT ASSIGNEE(S): Chloé Chimie, Paris, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4340722		19820720
APPLICATION INFO.:	US 1980-200092		19801023 (6)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1979-27282	19791106
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Henderson, C. A.	
LEGAL REPRESENTATIVE:	McDougall, Hersh & Scott	
NUMBER OF CLAIMS:	5	

EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)  
LINE COUNT: 1175  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of preparing homo and co-polymers of vinyl chloride in the form of a powder adapted to give plastisols, in which a latex of homo or co-polymers of vinyl chloride, containing from 30 to 60% by weight of dry material and comprising two populations of particles with specific granulometric properties, is concentrated by eliminating a fraction of the aqueous phase in the liquid state, then the residual water is dried off. The dry material content of the concentrated latex is from 50 to 80% by weight, and the absolute difference between the dry material content of the latex before and after concentration is over 10% by weight.

SUMM Homo and co-polymers of vinyl chloride appropriate to give plastisols are prepared by homopolymerizing vinyl chloride in emulsion or microsuspension or by co-polymerizing vinyl chloride in emulsion or microsuspension with at least one other co-polymerizable monomer. On an industrial scale, the homo or co-polymerization provides a latex which generally contains from 40 to 55% by weight of dry material. To obtain the polymer in a powdered state, the latex is generally treated by drying and particularly by spray drying or flaking. The greater the weight of dry material in the latex, the less onerous is the drying operation. It is therefore desirable to start with a latex containing the largest possible weight of dry material. For polymerization on the other hand, the higher the weight of dry material in the latex to be prepared, the more emulsifying agent is required. Latices containing a large weight of dry material thus contain large quantities of emulsifying agent. After the drying process, these remain mixed with the polymer and are detrimental to its properties, such as the transparency of the articles obtained, its thermal stability, its reaction to light and ultra violet rays and the ability of bubbles to escape from the plastisols. In addition, the heat liberated during the polymerization reaction is more difficult to dissipate if the weight of water in the polymerizing medium is low, i.e., if the weight of dry material in the latex to be prepared is high. What is desired therefore is to prepare a latex containing a relatively low weight of dry material and, before carrying out the drying operation, to concentrate it by eliminating part of the aqueous phase in the liquid state.

SUMM In the co-pending application Ser. No. 914,352, filed June 12, 1978, now U.S. Pat. No. 4,245,070 issued Jan. 13, 1981 description is made of a method of preparing homo and co-polymers of vinyl chloride comprising polymerizing the corresponding monomer or monomers in microsuspension, in the presence of two seeding substances in the form of dispersions of polymer particles with a different average diameter, the particles of at least one of the seeding substances containing the initiator necessary for polymerization.

SUMM The latex obtained by this process contains polymers which, after the separation of the polymerizing medium, are in the form of a powder particularly appropriate for the preparation of plastisols with a Newtonian or pseudoplastic action, containing very small quantities of plasticizer, down to 25 parts per 100 parts by weight of polymer, and with a low viscosity, both at a low speed gradient and a high one, thus allowing for very high speed coating.

SUMM The latex containing two populations of particles is concentrated by eliminating a fraction of the aqueous phase in the liquid state. This can be done by any process known per se such as filtration, centrifugal

decantation and preferably by ultrafiltration of the latex through a semi-permeable membrane. The ultrafiltration operation may be carried out in a conventional installation such as those found in industry.

- DRWD In the drawing, FIG. 1 is a sectional elevational view of an installation which can be used in the practice of this invention for concentration by ultrafiltration.
- DETD For a satisfactory performance of the ultrafiltration process, it is advantageous, according to the invention, to observe the following conditions:
- DETD All other things otherwise being equal, the time taken for ultrafiltering increases commensurately with the weight of dry material to be contained in the desired latex. As an illustration, for 100 kg of latex containing 48% by weight of dry material and with an ultrafiltration area of 10 m.<sup>sup.2</sup>, the ultrafiltering time taken to obtain 63% by weight of dry material is generally from 5 to 90 minutes.
- DETD Two portions of latex 1 A are concentrated by ultrafiltration in an installation developing an ultrafiltration area of 10 m.<sup>sup.2</sup>. The installation is equipped with a membrane with a cutting threshold of 20,000, marketed by Rhone-Poulenc Industries of France under the name of "IRIS 3038" and supplied by a pump which may have a rate of 30 m.<sup>sup.3</sup> /h at a pressure of 5 bars. Latex 1 B and latex 1 C are obtained. When the ultrafiltering process has been completed, the installation is emptied and thoroughly rinsed with an aqueous solution of emulsifying agent. There is found to be no plugging of the membrane.
- DETD Latices 1 A, 1 B and 1 C are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer and 40 parts by weight of dioctyl phthalate. The rheological properties of the plastisol are determined:
- DETD A portion of latex 1 A described in Example 1 is concentrated by ultrafiltration to give latex 2 B.
- DETD Latices 1 A and 2 B are treated by spraying: The powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer and 40 parts by weight of dioctyl phthalate.
- DETD Two portions of latex 3 A are concentrated by ultrafiltration to give latex 3 B and latex 3 C.
- DETD Latices 3 A, 3 B and 3 C are treated by flaking, the flaking equipment being formed by two drums, each 0.6 m.<sup>sup.2</sup> in area; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer and 40 parts by weight of dioctyl phthalate.
- DETD A portion of latex 4 A is concentrated by ultrafiltration to give latex 4 B.
- DETD Latices 4 A and 4 B are dried by spraying; the powder obtained is ground, and a plastisol is prepared by mixing 100 parts by weight of polymer and 45 parts by weight of dioctyl phthalate.
- DETD A portion of latex 5 A is concentrated by ultrafiltration to give latex 5 B.
- DETD Latices 5 A and 5 B are dried by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer and 50 parts by weight of dioctyl phthalate.
- DETD A portion of latex 6 A is concentrated by ultrafiltration to give latex 6 B.
- DETD Latices 6 A and 6 B are dried by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer and 50 parts by weight of dioctyl phthalate.
- DETD A portion of latex 7 A is concentrated by ultrafiltration to



- give latex 7 B.
- DETD Latexes 7 A and 7 B are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer and 45 parts by weight of dioctyl phthalate.
- DETD A portion of each of latexes 41 and 42 described in Example 4 and latexes 51 and 52 described in Example 5 are concentrated by ultrafiltration, to give latexes 8 B.sub.41, 8 B.sub.42, 8 B.sub.51 and 8 B.sub.52 respectively.
- DETD Latexes 41, 42, 51, 52, 8 B.sub.41, 8 B.sub.42, 8 B.sub.51 and 8 B.sub.52 are treated by spraying; the powder obtained is ground and a plastisol is obtained by mixing 100 parts by weight of polymer and the number of parts by weight of dioctyl phthalate given in Table 16.
- DETD A portion of latex 9 A is concentrated by ultrafiltration to give latex 9 B.
- DETD Latexes 9 A and 9 B are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer and 50 parts by weight of dioctyl phthalate.
- DETD A portion of latex 10 A is concentrated by ultrafiltration to give latex 10 B.
- DETD Latexes 10 A and 10 B are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer and 40 parts by weight of dioctyl phthalate.
- DETD A portion of each of latexes 11 A.sub.1, 11 A.sub.2, 11 A.sub.3, 11 A.sub.4, 11 A.sub.5, 11 A.sub.6 and 11 A.sub.7 is concentrated by ultrafiltration to give latexes 11 B.sub.1, 11 B.sub.2, 11 B.sub.3, 11 B.sub.4, 11 B.sub.5, 11 B.sub.6, and 11 B.sub.7 respectively.
- DETD Latexes 11 A.sub.1 to 11 A.sub.7 and 11 B.sub.1 to 11 B.sub.7 are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer with the number of parts by weight of dioctyl phthalate given in Table 26.
- DETD A portion of each of latexes 12 A.sub.1 and 12 A.sub.2 is concentrated by ultrafiltration to give latexes 12 B.sub.1 and 12 B.sub.2 respectively.
- DETD Latexes 12 A.sub.1, 12 A.sub.2, 12 B.sub.1 and 12 B.sub.2 are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer with 45 parts by weight of dioctyl phthalate.
- DETD A portion of each of latexes 13 A.sub.1, 13 A.sub.2, 13 A.sub.3 and 13 A.sub.4 is concentrated by ultrafiltration to give latexes 13 B.sub.1, 13 B.sub.2, 13 B.sub.3 and 13 B.sub.4 respectively.
- DETD Latexes 13 A.sub.1 to 13 A.sub.4 and 13 B.sub.1 to 13 B.sub.4 are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer with 45 parts by weight of dioctyl phthalate.
- DETD A portion of each of latexes 14 A.sub.1 and 14 A.sub.2 is concentrated by ultrafiltration to give latexes 14 B.sub.1 and 14 B.sub.2 respectively.
- DETD Latexes 14 A.sub.1, 14 A.sub.2, 14 B.sub.1 and 14 B.sub.2 are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer with 45 parts by weight of dioctyl phthalate.
- DETD A portion of latex 15 A is concentrated by ultrafiltration to give latex 15 B.
- DETD Latexes 15 A and 15 B are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing

100 parts by weight of polymer with 45 parts by weight of dioctyl phthalate.

DETD A portion of latex 16 A is concentrated by ultrafiltration to give latex 16 B.

DETD Latexes 16 A and 16 B are treated by spraying; the powder obtained is ground and a plastisol is prepared by mixing 100 parts by weight of polymer with 45 parts by weight of dioctyl phthalate.

CLM What is claimed is:

1. A method of preparing homo and co-polymers of vinyl chloride in the form of a powder adapted to give plasticols with improved rheological properties comprising the steps of concentrating a latex of homo or co-polymer of vinyl chloride containing from 30 to 60% by weight of dry material and two populations of particles by eliminating a fraction of the aqueous phase in the liquid state such that the absolute difference between the dry material contained in the latex before and after its concentration is over 10% to increase the dry material content of the latex to within the range of 50-80% by weight, the two populations of particles in the latex having mean diameters within the respective ranges of 0.7 to 1.5  $\mu\text{m}$  and from 0.12 to 0.3  $\mu\text{m}$ , at least 90% by weight of the particles of each population having a diameter within the range from 0.7 to 1.6 times the mean diameter of the said population, 5 to 45% by weight of the particles of the latex having a diameter less than 0.4  $\mu\text{m}$ , and drying the concentrate.

CLM What is claimed is:

3. The method of claim 1, in which said fraction of the aqueous phase is eliminated by ultrafiltration through a semipermeable membrane.

CLM What is claimed is:

4. The method of claim 1, in which drying is effected by spray drying.

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L9 ANSWER 38 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 90:57839 USPATFULL  
 TITLE: Ultra-fine particulated polymer  
 latex and composition containing the same  
 INVENTOR(S): Morita, Hiroshi, Chiba, Japan  
 Hirota, Eiichi, Funabashi, Japan  
 Ishizaki, Yasuo, Tokyo, Japan  
 PATENT ASSIGNEE(S): Lion Corporation, Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4943612		19900724
APPLICATION INFO.:	US 1987-128657		19871203 (7)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1986-290839	19861206
	JP 1986-290840	19861206
	JP 1986-290841	19861206
	JP 1986-290842	19861206
	JP 1986-290843	19861206

JP 1986-290844	19861206
JP 1986-290845	19861206
JP 1986-290846	19861206
JP 1987-76037	19870331
JP 1987-102731	19870424
JP 1987-102732	19870424
JP 1987-102733	19870424
JP 1987-102734	19870424
JP 1987-102735	19870424
JP 1987-102736	19870424
JP 1987-102737	19870424
JP 1987-149980	19870615
JP 1987-149982	19870615
JP 1987-149983	19870615

DOCUMENT TYPE: Utility  
 FILE SEGMENT: Granted  
 PRIMARY EXAMINER: Schofer, Joseph L.  
 ASSISTANT EXAMINER: McDonald, Jr., T.  
 LEGAL REPRESENTATIVE: Armstrong, Nikaido, Marmelstein, Kubovcik & Murray  
 NUMBER OF CLAIMS: 4  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)  
 LINE COUNT: 4598

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

- TI Ultra-fine particulated polymer latex and composition containing the same
- AB An ultra-fine particulated polymer latex having an average particle size of 100 nm or less, a crosslinked structure and a glass transition temperature lower than a value calculated by a weight fraction method.
- SUMM The present invention relates to a polymer latex, more specifically, to an ultra-fine particulated polymer latex obtained from the emulsion polymerization of unsaturated monomers. The present invention also relates to various compositions containing as an essential component the above-mentioned ultra-fine particulated polymer latex obtained from the emulsion polymerization of unsaturated monomers.
- SUMM To alleviate these drawbacks, methods have been proposed in which the film properties are improved by obtaining a polymer latex having ultrafine particles by use of a polymerization initiator in which a minute amount of a transition metal ion is added as the accelerator in a redox catalyst comprising persulfate and a reducing sulfoxo compound, and then forming an appropriate three-dimensional structure in the polymer latex (Japanese Unexamined Patent Publication (Kokai) No. 60-170604, No. 60-170605, "Surface" vol. 25, No. 2, 86, 1987).
- SUMM However, in these methods, problems arise in that the influence of the minute amount added of the transition metal used as the polymerization accelerator causes the particle size of the polymer latex to greatly differ, such that even when ultra-fine particulation is possible, the dispersion of the surfactant employed after emulsion polymerization may be small, which greatly increases the viscosity of the polymer latex formed, and thus ammonia water, ammonium phosphate or the like must be added before polymerization or during polymerization.
- SUMM Accordingly, the objects of the present invention are to eliminate the above-mentioned disadvantages of the prior art and to provide an ultra-fine particulated pre-crosslinked polymer

latex capable of forming a film having an excellent film forming property, transparency, smoothness, tackiness, water resistance, and mechanical strength.

- SUMM Another object of the present invention is to provide a composition containing the abovementioned ultra-fine particulated polymer latex having an excellent film forming property, transparency, smoothness, tackiness, water-resistance, and mechanical strength.
- DETD On the other hand, in a polymer latex, a minimum film forming temperature is known as the lowest temperature at which a film can be formed by the filling and fusion of the particles, and although the minimum film forming temperature has a proportional relationship to the glass transition temperature, an ultra-fine particulate polymer latex has now been found which is capable of forming a film having a crosslinked structure and having a minimum film forming temperature or a glass transition temperature of the film which is lower than the value calculated by a weight fraction method, and having an excellent mechanical strength.
- DETD Also, in the present invention, as the unsaturated monomer to be copolymerized with the above unsaturated monomer, for further consolidating the crosslinked structure within the particles and (or) between particles of the polymer latex formed and promoting crosslinking during film formation, an unsaturated monomer having reactive functional groups is preferably used, but an unsaturated monomer not having a functional group, which is convertible to a compound having active hydrogen in the emulsion polymerization system, can be used.
- DETD The ratio of the above unsaturated monomer to the unsaturated monomer having reactive functional groups used may be 99/1 to 60/40 (by weight), preferably 99/1 to 90/10 (by weight). If the use ratio is greater than 1, the crosslinking degree within the particles and between particles of the polymer latex formed will become smaller, and if it is smaller than 60/40, the emulsion polymerizability is reduced, whereby a large amount of agglomerates may be formed, or the film forming property will be inferior, or cracks may occur in the film.
- DETD Each of these emulsifiers can be used alone, but particularly when obtaining a pre-crosslinked polymer latex of ultra-fine particles having a dense and higher crosslinked structure within the particles and (or) between the particles with a ultrafine average particle size and capable of forming a film exhibiting a glass transition temperature lower than the value determined from the calculation formula, as the emulsifier to be used for the above unsaturated monomers, (a) the poly(meth)acryl type emulsifier represented by the above formula (IX), (b) the betaine ester type emulsifier represented by the above formulae ((X), (XI), (XII), (XIII), (XIV), and (c) the ether carboxylic acid represented by the above formulae (XV), (XVI), (XVII) may be used at a weight ratio of (a)/(b)=1/9 to 9/1 or (a)/(c)=1/9 to 9/1, preferably 1/4 to 4/1. If the use ratio is smaller than 1/9, the crosslinking degree within the particles and/or between particles of the polymer latex becomes smaller, and if greater than 9/1, the average particle size of the polymer latex may become greater. The amount employed of these emulsifiers is suitably about 0.1 to 15% by weight, preferably 0.5 to 10% by weight, based on the unsaturated monomers to be emulsion polymerized.
- DETD The present coating composition can be widely used from the fields in which conventional aqueous type coating compositions are used to the fields in which conventional solvent type coating compositions are used. Examples of such application fields are wooden products, plastic

products, metallic products, civil and architectural structures, automobiles, and railway cars. The present aqueous polymer latex emulsions can be formulated as a vehicle into clear coating compositions for undercoats and topcoats or emulsion coating compositions, or as a raw material into baking coating materials by, for example, blending with, for example, water-soluble melamine resins, or as a blending agent for improving the coating film properties into, for example, water-soluble coating compositions, powdery coating compositions, and hi-solid type coating compositions.

DETD The above-mentioned aqueous polymer latex emulsion according to the present invention can be advantageously used in binder composition for molding inorganic sintered products (e.g., ceramics) from inorganic powder (e.g., alumina powder).

DETD Various electroconductive materials are used in, for example, electronic parts to prevent problems such as malfunctions and erroneous operation caused by static electricity. Of these materials, laminated type electroconductive materials comprising a insulating base having an electroconductive layer laminated thereon are preferably utilized, from the economic and operational viewpoints. These electroconductive layers are generally prepared from electroconductive film forming materials containing, as a binder, resins dissolved in solvents and metals, metallic compounds, carbon particles, electroconductive polymer such as semiconductive surfactants, and electroconductive fillers dispersed in the resin solution. However, the use of the above-mentioned organic solvent type film forming materials is not preferable from the viewpoints of fire, environmental pollution, and hygiene. Furthermore, the dispersibility of electroconductive materials such as metallic powder is poor.

DETD The toner resin can be prepared by adding dyes, pigments and/or magnetic powder to the present aqueous polymer emulsions, followed by mixing. The resultant mixture can be powdered by, for example, a conventional spray drying method. Alternatively, the aqueous polymer emulsion is first powdered and, then, the resultant powder is uniformly mixed in a molten state with dyes, pigments, and/or magnetic powder, followed by pulverizing or granulating in a conventional pulverizer (e.g., hammer mill, jet mill). The particle size of the toners thus obtained is usually 1 to 50  $\mu\text{m}$ , preferably 5 to 20  $\mu\text{m}$ .

DETD When aqueous polymer emulsions are included in photosensitive materials, the aqueous polymer emulsions are added to coating compositions and photosensitive materials or film units are prepared therefrom. Thus, the surface luster, the dimension stability, and the flexibility are improved. However, since surfactants remain in conventional aqueous polymer emulsions, the photographic performances are adversely affected. Thus, the aqueous emulsions must be purified by, for example, dialysis, in exchange methods, membrane filtration or electric dialysis such as synchrofilter, fiber. Furthermore, the aqueous emulsions obtained from the above-mentioned purification treatment still have problems such as a poor dispersion stability and the formation of coarse particles due to agglomeration or unifying, and thus the photographic performances such as the surface luster, dimension stability, and flexibility are impaired.

=> d 19 38 ibib hit

L9 ANSWER 38 OF 50 USPATFULL on STN

ACCESSION NUMBER: 90:57839 USPATFULL

TITLE: Ultra-fine particulated polymer latex and composition containing the same

INVENTOR(S): Morita, Hiroshi, Chiba, Japan

Hirota, Eiichi, Funabashi, Japan  
 Ishizaki, Yasuo, Tokyo, Japan  
 Lion Corporation, Tokyo, Japan (non-U.S. corporation)

PATENT ASSIGNEE(S):

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4943612		19900724
APPLICATION INFO.:	US 1987-128657		1987/1203 (7)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1986-290839	19861206
	JP 1986-290840	19861206
	JP 1986-290841	19861206
	JP 1986-290842	19861206
	JP 1986-290843	19861206
	JP 1986-290844	19861206
	JP 1986-290845	19861206
	JP 1986-290846	19861206
	JP 1987-76037	19870331
	JP 1987-102731	19870424
	JP 1987-102732	19870424
	JP 1987-102733	19870424
	JP 1987-102734	19870424
	JP 1987-102735	19870424
	JP 1987-102736	19870424
	JP 1987-102737	19870424
	JP 1987-149980	19870615
	JP 1987-149982	19870615
	JP 1987-149983	19870615

DOCUMENT TYPE:

Utility

FILE SEGMENT:

Granted

PRIMARY EXAMINER:

Schofer, Joseph L.

ASSISTANT EXAMINER:

McDonald, Jr., T.

LEGAL REPRESENTATIVE:

Armstrong, Nikaido, Marmelstein, Kubovcik &amp; Murray

NUMBER OF CLAIMS:

4

EXEMPLARY CLAIM:

1

NUMBER OF DRAWINGS:

3 Drawing Figure(s); 3 Drawing Page(s)

LINE COUNT:

4598

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Ultra-fine particulated polymer latex and  
 composition containing the same

AB An ultra-fine particulated polymer latex having an  
 average particle size of 100 nm or less, a crosslinked structure and a  
 glass transition temperature lower than a value calculated by a weight  
 fraction method.

SUMM The present invention relates to a polymer latex, more specifically, to  
 an ultra-fine particulated polymer latex obtained  
 from the emulsion polymerization of unsaturated monomers. The present  
 invention also relates to various compositions containing as an  
 essential component the above-mentioned ultra-fine particulated  
 polymer latex obtained from the emulsion polymerization of  
 unsaturated monomers.

SUMM To alleviate these drawbacks, methods have been proposed in which the  
 film properties are improved by obtaining a polymer latex  
 having ultrafine particles by use of a polymerization  
 initiator in which a minute amount of a transition metal ion is added as  
 the accelerator in a redox catalyst comprising persulfate and a reducing  
 sulfoxo compound, and then forming an appropriate three-dimensional

structure in the polymer latex (Japanese Unexamined Patent Publication (Kokai) No. 60-170604, No. 60-170605, "Surface" vol. 25, No. 2, 86, 1987).

SUMM However, in these methods, problems arise in that the influence of the minute amount added of the transition metal used as the polymerization accelerator causes the particle size of the polymer latex to greatly differ, such that even when ultra-fine particulation is possible, the dispersion of the surfactant employed after emulsion polymerization may be small, which greatly increases the viscosity of the polymer latex formed, and thus ammonia water, ammonium phosphate or the like must be added before polymerization or during polymerization.

SUMM Accordingly, the objects of the present invention are to eliminate the above-mentioned disadvantages of the prior art and to provide an ultra-fine particulated pre-crosslinked polymer latex capable of forming a film having an excellent film forming property, transparency, smoothness, tackiness, water resistance, and mechanical strength.

SUMM Another object of the present invention is to provide a composition containing the abovementioned ultra-fine particulated polymer latex having an excellent film forming property, transparency, smoothness, tackiness, water-resistance, and mechanical strength.

DETD On the other hand, in a polymer latex, a minimum film forming temperature is known as the lowest temperature at which a film can be formed by the filling and fusion of the particles, and although the minimum film forming temperature has a proportional relationship to the glass transition temperature, an ultra-fine particulate polymer latex has now been found which is capable of forming a film having a crosslinked structure and having a minimum film forming temperature or a glass transition temperature of the film which is lower than the value calculated by a weight fraction method, and having an excellent mechanical strength.

DETD Also, in the present invention, as the unsaturated monomer to be copolymerized with the above unsaturated monomer, for further consolidating the crosslinked structure within the particles and (or) between particles of the polymer latex formed and promoting crosslinking during film formation, an unsaturated monomer having reactive functional groups is preferably used, but an unsaturated monomer not having a functional group, which is convertible to a compound having active hydrogen in the emulsion polymerization system, can be used.

DETD The ratio of the above unsaturated monomer to the unsaturated monomer having reactive functional groups used may be 99/1 to 60/40 (by weight), preferably 99/1 to 90/10 (by weight). If the use ratio is greater than 1, the crosslinking degree within the particles and between particles of the polymer latex formed will become smaller, and if it is smaller than 60/40, the emulsion polymerizability is reduced, whereby a large amount of agglomerates may be formed, or the film forming property will be inferior, or cracks may occur in the film.

DETD Each of these emulsifiers can be used alone, but particularly when obtaining a pre-crosslinked polymer latex of ultra-fine particles having a dense and higher crosslinked structure within the particles and (or) between the particles with a ultrafine average particle size and capable of forming a film exhibiting a glass transition temperature lower than the value determined from the calculation formula, as the emulsifier to be used for the above unsaturated monomers, (a) the poly(meth)acryl

type emulsifier represented by the above formula (IX), (b) the betaine ester type emulsifier represented by the above formulae ((X), (XI), (XII), (XIII), (XIV), and (c) the ether carboxylic acid represented by the above formulae (XV), (XVI), (XVII) may be used at a weight ratio of (a)/(b)=1/9 to 9/1 or (a)/(c)=1/9 to 9/1, preferably 1/4 to 4/1. If the use ratio is smaller than 1/9, the crosslinking degree within the particles and/or between particles of the polymer latex becomes smaller, and if greater than 9/1, the average particle size of the polymer latex may become greater. The amount employed of these emulsifiers is suitably about 0.1 to 15% by weight, preferably 0.5 to 10% by weight, based on the unsaturated monomers to be emulsion polymerized.

DETD The present coating composition can be widely used from the fields in which conventional aqueous type coating compositions are used to the fields in which conventional solvent type coating compositions are used. Examples of such application fields are wooden products, plastic products, metallic products, civil and architectural structures, automobiles, and railway cars. The present aqueous polymer latex emulsions can be formulated as a vehicle into clear coating compositions for undercoats and topcoats or emulsion coating compositions, or as a raw material into baking coating materials by, for example, blending with, for example, water-soluble melamine resins, or as a blending agent for improving the coating film properties into, for example, water-soluble coating compositions, powdery coating compositions, and hi-solid type coating compositions.

DETD The above-mentioned aqueous polymer latex emulsion according to the present invention can be advantageously used in binder composition for molding inorganic sintered products (e.g., ceramics) from inorganic powder (e.g., alumina powder).

DETD Various electroconductive materials are used in, for example, electronic parts to prevent problems such as malfunctions and erroneous operation caused by static electricity. Of these materials, laminated type electroconductive materials comprising a insulating base having an electroconductive layer laminated thereon are preferably utilized, from the economic and operational viewpoints. These electroconductive layers are generally prepared from electroconductive film forming materials containing, as a binder, resins dissolved in solvents and metals, metallic compounds, carbon particles, electroconductive polymer such as semiconductive surfactants, and electroconductive fillers dispersed in the resin solution. However, the use of the above-mentioned organic solvent type film forming materials is not preferable from the viewpoints of fire, environmental pollution, and hygiene. Furthermore, the dispersibility of electroconductive materials such as metallic powder is poor.

DETD The toner resin can be prepared by adding dyes, pigments and/or magnetic powder to the present aqueous polymer emulsions, followed by mixing. The resultant mixture can be powdered by, for example, a conventional spray drying method. Alternatively, the aqueous polymer emulsion is first powdered and, then, the resultant powder is uniformly mixed in a molten state with dyes, pigments, and/or magnetic powder, followed by pulverizing or granulating in a conventional pulverizer (e.g., hammer mill, jet mill). The particle size of the toners thus obtained is usually 1 to 50  $\mu\text{m}$ , preferably 5 to 20  $\mu\text{m}$ .

DETD When aqueous polymer emulsions are included in photosensitive materials, the aqueous polymer emulsions are added to coating compositions and photosensitive materials or film units are prepared therefrom. Thus, the surface luster, the dimension stability, and the flexibility are improved. However, since surfactants remain in conventional aqueous polymer emulsions, the photographic performances are adversely affected. Thus, the aqueous emulsions must be purified by, for example, dialysis,



in exchange methods, membrane filtration or electric dialysis such as synchrofilter, fiber. Furthermore, the aqueous emulsions obtained from the above-mentioned purification treatment still have problems such as a poor dispersion stability and the formation of coarse particles due to agglomeration or unifying, and thus the photographic performances such as the surface luster, dimension stability, and flexibility are impaired.

=> d 19 37 ibib hit

L9 ANSWER 37 OF 50 USPATFULL on STN  
 ACCESSION NUMBER: 90:63595 USPATFULL  
 TITLE: Process for spray drying of vinyl chloride homopolymers and copolymers  
 INVENTOR(S): Brulet, Daniel, Saint-Symphorien D'ozon, France  
 Pommier, Yves, Saint-Auban, France  
 PATENT ASSIGNEE(S): Atochem, Paris la Defense, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4948872		19900814
APPLICATION INFO.:	US 1987-91271		19870831 (7)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1986-12781	19860912
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Henderson, Christopher	
LEGAL REPRESENTATIVE:	Sigalos, Levine & Montgomery	
NUMBER OF CLAIMS:	3	
EXEMPLARY CLAIM:	1	
LINE COUNT:	358	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Process for spray drying of vinyl chloride homopolymers and copolymers

AB A process for the preparation of vinyl chloride homopolymer and copolymer pulverulent powders suitable for the preparation of plastisols with improved rheological properties, comprising polymerizing to form a vinyl chloride homopolymer or copolymer latex and drying said latex by atomization, the temperature at which the latex to be subjected to drying by atomization is employed being at least equal to 40° C. and being lower than the degradation temperature of said homopolymer or copolymer, and the resultant vinyl chloride polymer pulverulent powders.

SUMM Vinyl chloride homopolymers and copolymers suitable for yielding plastisols are prepared by homopolymerization of the vinyl chloride in emulsion or in micro-suspension, or copolymerization of the vinyl chloride in emulsion or in micro-suspension with another copolymerizable monomer. This homopolymerization or copolymerization industrially provides a latex generally containing 30 to 60% by weight of dry material formed by vinyl chloride homopolymer or copolymer particles having a diameter generally between 0.1 to 5µm. To obtain a dry pulverulent polymer, the said latex, possibly following concentration, for example, by ultrafiltration, is generally treated by drying, especially by drying by atomization.

SUMM The drying of the said latices by atomization is a well-known technique

which is carried out in an apparatus consisting of an atomization device fed with the latex and an atomization chamber in which the said device continuously disperses the latex in fine droplets. In this device, hot gases, generally air, come into contact with the pulverized mass and evaporate the water present in each droplet. The temperature of the gases entering the atomization chamber is generally between 170° and 260° C., and their temperature upon leaving the chamber is between 65° and 80° C. From the latex particles, polymer agglomerates having a diameter generally between 30 and 150µm are thus continuously formed, separated from the hot gases and then finally subjected to, also continuously, to grinding intended to lead to sizes generally between 5 and 30µm. The grinding can especially be carried out by means of a device using mechanical energy or compressed air to precipitate the agglomerates against a solid wall and/or against one another, thus reducing their size.

SUMM Briefly, the present invention comprises a process of the preparation of vinyl chloride homopolymer and copolymer pulverulent powder suitable for the preparation of plastisols comprising drying a vinyl chloride homopolymer or copolymer latex by atomization, the temperature at which the latex to be subjected to atomization is employed being at least equal to about 40° C. and being lower than the degradation temperature of said homopolymer or copolymer.

SUMM The latex to be treated can be prepared by any process for the homopolymerization or copolymerization of vinyl chloride in emulsion or in microsuspension, possibly in the presence of one or several seeding products. The latex may be primarily prepared by the homopolymerization or copolymerization of vinyl chloride in seeded emulsion according to the process described in French Pat. Application No. 74.32094, published under No. 2,286,152. It may be primarily prepared by the homopolymerization or copolymerization of vinyl chloride in seeded microsuspension according to the process described in French Patent Application No. 75.13582, Published under No. 2,309,569. It can also be prepared by mixing several latices prepared by any method for homopolymerization or copolymerization of vinyl chloride in emulsion or in microsuspension. The latex to be treated or, in the case of a latex mixture, each of the latices in the mixture, may be submitted to concentration before treatment, for example, by ultrafiltration. The latex to be treated generally contains 0 to 80% by weight of dry material, consisting of vinyl chloride homopolymer and copolymer particles having a diameter generally between 0.1 and 5µm.

CLM What is claimed is:  
 1. A process for the preparation of vinyl chloride homopolymer and copolymer pulverulent powders suitable for the preparation of plastisols with improved rheological properties, comprising polymerizing to form a vinyl chloride homopolymers or copolymer latex and drying all of said latex by atomization to form pulverulent powders, the temperature of the latex to be subjected to drying by atomization at the initiation of atomization being at least equal to 40° C. to a temperature lower than the degradation temperature of said homopolymer or copolymer.

=> d 19 33 ibib hit

TITLE: Polyvinyl acetals which can form emulsifier-free aqueous dispersions and redispersible dry powders, processes for their preparation and their use

INVENTOR(S): Kroggel, Matthias, Kelkheim, Germany, Federal Republic of Schindler, Hermann, Hofheim, Germany, Federal Republic of

PATENT ASSIGNEE(S): Hoechst Aktiengesellschaft, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5559175		19960924
APPLICATION INFO.:	US 1995-394418		19950224 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1993-138121, filed on 15 Oct 1993, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1992-4235151	19921019
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Reddick, Judy M.	
LEGAL REPRESENTATIVE:	Bierman & Muserlian	
NUMBER OF CLAIMS:	14	
EXEMPLARY CLAIM:	1	
LINE COUNT:	897	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Preparation of polyvinyl acetals which can form emulsifier- and surfactant-free aqueous dispersions and redispersible dry powders and contain copolymeric polyvinyl acetals with, in amounts sufficient to form a dispersion, comonomer units carrying sulfo salt groups which are derived from copolymeric polyvinyl alcohol (PVALs) which contained comonomer units carrying sulfonate groups in the salt form. The preparation is carried out by acetalization of the starting polyvinyl alcohols to be used with aldehydes or aldehyde acetals under acid-catalyzed acetalization conditions in an aqueous medium, emulsifier-free stable aqueous polyvinyl acetal dispersions being obtained, from which dry redispersible polyvinyl acetal powders can be obtained by spray drying or freeze drying. The polyvinyl acetals according to the invention can be plasticized by mixing in plasticizers both in their aqueous dispersion form and in the dry powder form. The polyvinyl acetals according to the invention can be employed, both in the aqueous dispersion form and in the dry powder form, in numerous fields of use where polyvinyl acetals of the type known to date are already usually used. Moreover, because of the advantageous spectrum of properties of polyvinyl acetals according to the invention, numerous new fields of use are accessible.

SUMM The invention relates to polyvinyl acetals which can form emulsifier- and surfactant-free aqueous dispersions and redispersible dry powders and are prepared from copolymeric polyvinyl alcohols (PVALs), which have contents of comonomer units carrying sulfo salt groups which are sufficient to form a dispersion, in aqueous solution by reaction with aldehydes under acid-catalyzed acetalization conditions in the absence of low molecular weight emulsifiers or surfactants to form stable aqueous polyvinyl acetal dispersions and, if appropriate, removal of the water content from the dispersions by spray drying or freeze drying and isolation of the polymer content of the dispersions in a dry,

redispersible powder form, processes for the preparation of the polyvinyl acetals and their aqueous emulsifier-free dispersions and their use either in the aqueous dispersion form or in the dry redispersible powder form.

SUMM It has now been found that, surprisingly, polyvinyl acetals which can form stable aqueous dispersions can be obtained in aqueous dispersion form or, by drying the dispersions, in powder form if copolymeric polyvinyl alcohols which contain the required amount of comonomer units carrying sulfonate groups in their salt form are reacted under acetalization conditions, in aqueous solution by themselves or as a mixture with conventional polyvinyl alcohols which are free from sulfonate groups, with aldehydes or aldehyde acetals in the presence of acid catalysts, it being possible for stable, finely divided aqueous polyvinyl acetal dispersions which contain no low molecular weight emulsifiers or surfactants to be obtained.

SUMM The polyvinyl acetal dispersions formed preferably have solids contents of up to 60% by weight, preferably 5 to 40% by weight, depending on the concentration of the PVAL starting solution employed for the acetalization and depending on the degree of acetalization. If PVAL solutions of low concentration are employed, dispersion solids contents in the upper range cannot be achieved immediately. In these cases, however, there is in principle the possibility of following the preparation of a dispersion according to the invention with a second reaction cycle in which polyvinyl alcohol is dissolved again in the dispersion and then acetalized under the abovementioned conditions. If appropriate, this procedure can be repeated several times or, for example, can be carried out continuously in a cascade acetalization apparatus. Polyvinyl acetal dispersions having high solids contents are also obtainable from PVALs of very high molecular weight by this route. Alternatively, the solids content of polyvinyl acetal dispersions of low concentration can be increased by distilling off water, preferably under reduced pressure. The dispersions can also be concentrated by means of ultrafiltration, which is particularly preferred. The average particle size of the polymer particles in the aqueous polyvinyl acetal dispersions according to the invention is preferably between 0.1 and 3  $\mu\text{m}$ , in particular between 0.3 and 1.5  $\mu\text{m}$ , particularly preferably between 0.5 and 1.1  $\mu\text{m}$ .

SUMM The polymer content in the aqueous polyvinyl acetal dispersions according to the invention can be isolated according to the invention as a solid by removing the water. The isolation of the solid products in anhydrous powder form can advantageously be carried out by freeze drying or, in particular, by spray drying the aqueous dispersions. The dispersion powders obtainable by this route are redispersible according to the invention in aqueous media.

SUMM The polyvinyl acetal dispersions according to the invention and also the polyvinyl acetate powders according to the invention can in principle be plasticized with all the plasticizers and plasticizer mixtures which are compatible with known polyvinyl acetals. A list of commercially available plasticizers, which contains data on their compatibility with, for example, polyvinyl butyral can be found in the publication Modern Plastics Encyclopedia 1981/1982, pages 710-719. Examples of particularly suitable plasticizers are the diesters of aliphatic diols with aliphatic carboxylic acids, in particular diesters of di-, tri- and tetraethylene glycol with aliphatic carboxylic acids having 6 to 10 carbon atoms, for example 2-ethylbutyric acid or

n-heptanoic acid, and furthermore diesters of dicarboxylic acids, such as adipic, sebacic or phthalic acid, with aliphatic (C.sub.4 -C.sub.10)-alcohols, in particular di-hexyl adipate and dioctyl adipate, and furthermore esters of long-chain fatty acids having up to 40 carbon atoms, in particular ricinoleic acid esters and oleic acid esters.

SUMM The plasticizers can be employed in the customary amounts of up to 40% by weight, preferably up to 30% by weight, based on the polymer content of the dispersion or on the anhydrous polymer powder. They can be admixed either to the aqueous dispersions or to the dry polymer powders.

SUMM The aqueous polyvinyl acetal dispersions and the polyvinyl acetal powders obtained therefrom by removal of water furthermore can be mixed with fillers, pigments, resins, water-miscible solvents, aqueous dispersions of plastics, crosslinking agents, film-forming agents, stabilizers and the like.

SUMM The invention furthermore relates to a process for the preparation of dry, pulverulent polyvinyl acetals, which can be redispersed in water, by removal of the water content from the emulsifier- and surfactant-free aqueous polyvinyl acetal dispersions according to the invention described above, preferably by freeze drying, and particularly preferably by spray drying.

SUMM Fillers, pigments, dyestuffs, solvents, plasticizers, other dispersions of plastics, resins, film-forming auxiliaries, light stabilizers, crosslinking agents and, if appropriate, also emulsifiers, protective colloids and other customary additives can be admixed to the aqueous polyvinyl acetal dispersions according to the invention. Films can in principle be obtained from the aqueous polyvinyl acetal dispersions according to the invention above their particular minimum film-forming temperature (MFT), and the dispersions can form useful films and coatings which can have surprisingly advantageous properties compared with films and coatings of known polyvinyl acetal dispersions. Below the MFT of the aqueous dispersions, it is also possible to produce coatings from finely divided polymer particles which, after drying of the aqueous layers of dispersion applied and heating of the dried layers comprising pulverulent polymer particles to temperatures above the glass transition temperature (T.sub.G) of the polyvinyl acetal, can form cohesive dense surface coatings or films which display a very good adhesion, for example to metallic substrates, and if appropriate, if crosslinking agent components are also used, can be converted into firmly adhering insoluble coatings or films by stoving at elevated temperatures. Owing to their good adhesion to various materials, in particular to glass and to metals, the polyvinyl acetals according to the invention can have diverse uses as coating compositions.

SUMM Polyvinyl butyral dispersions according to the invention and the dry, water-redispersible polyvinyl butyral powders according to the invention obtained from the dispersions are particularly preferred. The latter and also other polyvinyl acetal powders according to the invention can advantageously also be used as binder components in non-aqueous coating formulations based on organic solvents, and if appropriate also as a corrosion protection component for metals, if the polyvinyl acetal powders are soluble in the desired organic solvent medium. Polyvinyl acetals according to the invention are preferably used here in the form of their ammonium or amine salts.

SUMM Aqueous polyvinyl acetal dispersions according to the invention and dry polyvinyl acetal powders according to the invention obtained therefrom can advantageously be used, inter alia, for the production of varnishes, pigment binders, paints, deep primers for consolidation of porous substrates, adhesives, hot melt adhesives, printing ink binders, photosensitive layers, photographic printing plates, photoresists and films. The aqueous dispersions furthermore can advantageously be used for impregnating textiles, for sizing paper and for finishing paper. They can furthermore be employed in numerous fields of use where polyvinyl acetals of the type known to date are usually used, if appropriate in combination with known polyvinyl acetals, which may be advantageous for some uses.

SUMM The invention therefore also furthermore relates to the use described above of aqueous polyvinyl acetal dispersions according to the invention and of the dry and redispersible polyvinyl acetal powders prepared from the latter by elimination of water, preferably as a constituent of coating compositions for various substrates, preferably for glass and metals, as a binder for pigments, for the production of printing inks, of photosensitive layers, of photographic printing plates and photoresists, of hot melt adhesives, of films, of solvent-containing or aqueous adhesives, of deep primers for compaction of porous substrates, preferably wood, masonry, plaster, molded bricks and concrete, and of varnish formulations, if appropriate also using crosslinking agents, for gluing various materials, such as metals, ceramic materials, plastics, fibers, films, textiles, paper and wood, for the production of shaped articles and films by thermoplastic shaping, as a material for shaped articles which can be processed thermoplastically, as intermediate film layers in the production of laminated glasses, and as binders in synthetic resins plasters, stopping compositions and construction adhesives, preferably in dry, pulverulent formulations which can be made up or dispersed with water.

CLM What is claimed is:  
1. A process for the preparation of a polyvinyl acetal with, in amounts sufficient to form a dispersion, sulfo salt groups with a --SO<sub>3</sub>sub.3 content or an emulsifier-free aqueous dispersion thereof and its aqueous emulsifier-free dispersion by acetalization of a polyvinyl alcohol (PVAL) with an aldehyde or aldehyde acetal under acid catalysts in an aqueous medium comprising reacting a copolymeric PVAL containing comonomer units carrying sulfo salt groups in an amount sufficient to form a dispersion, or a mixture thereof, capable of forming a dispersion, with a PVAL free from sulfo salt groups with the stoichiometrically required amount of an aldehyde or an aldehyde acetal in aqueous solution with addition of an acid catalyst under acetalization conditions in the absence of a low molecular weight emulsifier or surfactant to form a stable aqueous polyvinyl acetal dispersion, and recovering the resulting dispersion, or isolating the polymer content of the resulting aqueous dispersion in a dry, water-redispersible powder form by removal of water.

CLM What is claimed is:  
10. The process of claim 1 wherein the polyvinyl acetal is in the form of an aqueous dispersion of plastic containing no low molecular weight emulsifier or surfactant and having a solids content of up to 60% by weight, based on the aqueous dispersion, and wherein the average particle diameter of polymer is in the range from 0.1 to 3  $\mu$ m.

CLM     What is claimed is:  
11. The process of claim 1 wherein the polyvinyl acetal is in the form of a finely divided redispersible powder prepared from an aqueous polyvinyl acetal dispersion by removal of water.

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(FILE 'HOME' ENTERED AT 00:32:38 ON 21 DEC 2008)  
SET ABBR ON PERM  
SET PLURALS ON PERM

FILE 'USPATFULL, USPATOLD, USPAT2, CAPLUS, JAPIO' ENTERED AT 00:33:08 ON 21 DEC 2008

L1       1497 SEA ABB=ON PLU=ON (SPRAY(1A) DRYING) (8A) ((POLY?(3A) DISPERSIO  
N) OR LATEX OR LATICE#)  
L2       107 SEA ABB=ON PLU=ON (SPRAY(1A) DRY?) (S) (ANTI(1W) BLOCK? OR  
ANTIBLOCK?)  
L3       49 SEA ABB=ON PLU=ON L1 AND L2  
L4       1247 SEA ABB=ON PLU=ON (ANTI(1W) BLOCK? OR ANTIBLOCK?) (S) (PARTICLE  
#(4A) SIZE#)  
L5       21 SEA ABB=ON PLU=ON L3 AND L4  
D L5 1-21 IBIB ABS  
D L5 20 IBIB HIT  
D L5 16 IBIB HIT

FILE 'STINGUIDE' ENTERED AT 00:42:15 ON 21 DEC 2008

FILE 'USPATFULL, USPATOLD, USPAT2, CAPLUS, JAPIO' ENTERED AT 00:45:23 ON 21 DEC 2008

D L5 13 IBIB HIT  
L6       3414 SEA ABB=ON PLU=ON SPRAY(1A) DRYING AND (ULTRAFILTRAT? OR  
MEMBRANE(1A) FILTRAT? OR MICROFILTRAT? OR CROSSFLOW(1A)  
FILTRAT? OR CROSSFLOWFILTRAT?)  
L7       20198 SEA ABB=ON PLU=ON POWDER#(S) ((POLY?(3A) DISPERSION) OR LATEX  
OR LATICE#)  
L8       65 SEA ABB=ON PLU=ON L6 AND L7  
L9       50 SEA ABB=ON PLU=ON L8 AND POLYMER###(3A) (POWDER# OR PARTIC?)  
  
D L9 1-50 IBIB ABS  
D L9 42 IBIB HIT  
D L9 40 IBIB HIT  
D L9 38 IBIB HIT  
D L9 38 IBIB HIT  
D L9 37 IBIB HIT  
D L9 33 IBIB HIT

FILE HOME

FILE USPATFULL

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 18 Dec 2008 (20081218/PD)  
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USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2008

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<20080828/PD>

>>> GRAPHIC IMAGES AVAILABLE <<<

FILE STNGUIDE

FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Dec 19, 2008 (20081219/UP).

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

214.37

318.03

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

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